

From: (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune
To: (b)(6) NAVFAC MIDLANT, BD (b)(6) NAVFAC MIDLANT, Staff (b)(6)
(b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune; (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune
Subject: Correspondence Regarding Group III (Email 5), Freedom of Information Act (FOIA) Request DON-NAVY-2017-003161 - Camp Lejeune - P1383 & P1384 Base Entry Point / CLEO Building Projects Contract No. K1310-002-S / Project Number K1310 SLO Case No. 16-970
Date: Friday, May 12, 2017 13:25:12
Attachments: [Non-DoD Source TRANSMITTAL 1224 REV 2 CLEO PVT PLAN.msg](#)
[RE Wilson Gate Tile .msg](#)
[RE Wilson Gate Tile .msg](#)
[Non-DoD Source FW Wilson Gate Tile .msg](#)
[RE CLEO Preliminary TAB Report Discrepancies.msg](#)
[Non-DoD Source RE CLEO Preliminary TAB Report Discrepancies.msg](#)
[RE TRANSMITTAL 1262 SPEC 27 10 00 TELECOMMUNICATIONS CABLING SYSTEM SD-03 OUTDOOR RATED CAT-6 CABLE.msg](#)
[RE TRANSMITTAL 1262 SPEC 27 10 00 TELECOMMUNICATIONS CABLING SYSTEM SD-03 OUTDOOR RATED CAT-6 CABLE.msg](#)
[Non-DoD Source Re TRANSMITTAL 1262 SPEC 27 10 00 TELECOMMUNICATIONS CABLING SYSTEM SD-03 OUTDOOR RATED CAT-6 CABLE.msg](#)
[RE TRANSMITTAL 1262 SPEC 27 10 00 TELECOMMUNICATIONS CABLING SYSTEM SD-03 OUTDOOR RATED CAT-6 CABLE.msg](#)

FYI

(b)(6)
Contract Specialist
ROICC Camp Lejeune

(b)(6)
(b)(6)
(b)(6)

From: (b)(6)
To: (b)(6) NAVFAC MIDLANT, CI (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune (b)(6)
NAVFAC MIDLANT, ROICC Camp Lejeune
Cc: (b)(6) (PM, Group III Management); (b)(6) (Group III Mat Superintendent); (b)(6)
Subject: [Non-DoD Source] FW: Wilson Gate Tile
Date: Thursday, June 09, 2016 17:25:43
Attachments: [image001.png](#)
Importance: High

Good afternoon (b)(6). The finish schedule on sheet A-602 states that the bathroom wall tile will be Daltile, 8"x8" 0135 – ALMOND & Daltile 8"x8" DM14 – COBALT. It only comes in 6"x6". Is a 6"x6" acceptable? There is no additional charge for the change.

Below is a link to the product colors.

<http://products.daltile.com/series.cfm?seriesName=semigloss> <<http://products.daltile.com/series.cfm?seriesName=semigloss>>

The almond tile color is on back order until mid-July. Please see if the American Olean Biscuit is a suitable color alternative.

Thanks. R/ (b)(6)

(b)(6) | Deputy Project Manager & Small Business Liaison | cid:image001.png@01CCA871.8C8E7960 |

311 Parachute Tower Road | Camp Lejeune, NC 28542 |

(b)(6)
(b)(6)

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From (b)(6) [[mailto:\(b\)\(6\)](#)]
Sent: Wednesday, June 08, 2016 3:27 PM
To (b)(6)
Cc (b)(6); (b)(6); (b)(6)
Subject: Wilson Gate Tile

(b)(6) -

The finish schedule on sheet A-602 states that the bathroom wall tile will be Daltile, 8"x8" 0135 – ALMOND & Daltile 8"x8" DM14 – COBALT. Below is a link to the product colors.

<http://products.daltile.com/series.cfm?seriesName=semigloss>

The only issue is that they do not make this tile in a 8" x 8". It comes in a 6x6. I've talked to the Tile sub. There is no additional charge for the change. Can you please find out if a 6x6 is acceptable? We may be able to start as early as next week if can get approval on this. Depends on the Cobalt color availability. There is a chance we might have to submit an alternate. I will keep you posted. In the mean time, please find out about the 6x6.

Thank you -

(b)(6) - Vice President
Group III Mgt., Inc.

(b)(6)

From: (b)(6)
To: (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune: (b)(6) (b)(6)
Cc: (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune (b)(6) (PM, Group III Management) (b)(6)
(b)(6) (Group III Mgt Superintendent)
Subject: [Non-DoD Source] RE: CLEO Preliminary TAB Report Discrepancies
Date: Tuesday, June 07, 2016 12:23:11

Good morning (b)(6). Thanks for the letter. We reversed the pumps already, adjusted all dampers, and re-performed TAB with . We hope to submit the final TAB results tomorrow. Thanks. R/ (b)(6)

(b)(6) | Deputy Project Manager & Small Business Liaison | |
311 Parachute Tower Road | Camp Lejeune, NC 28542 |

(b)(6)
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-----Original Message-----

From: (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune [mailto:(b)(6)]
Sent: Tuesday, June 07, 2016 7:21 AM
To: (b)(6); (b)(6) (b)(6)
Cc: (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune
Subject: CLEO Preliminary TAB Report Discrepancies

(b)(6)

See attached letter.

(b)(6) PE
Supervisory Construction Manager
ROICC, Camp Lejeune, NC
(b)(6)

From: (b)(6)
To: (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune
Cc: (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune; (b)(6) (b) NAVFAC MIDLANT, ROICC Camp Lejeune; (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune; (b)(6) (b) NAVFAC MIDLANT, ROICC Camp Lejeune; (b)(6) (PM, Group III Management)
Subject: [Non-DoD Source] Re: TRANSMITTAL 1262, SPEC 27 10 00, TELECOMMUNICATIONS CABLING SYSTEM, SD-03, OUTDOOR RATED CAT-6 CABLE
Date: Tuesday, June 07, 2016 6:34:57

Good morning (b)(6). I know that (b)(6) approved this single item. Didn't feel that the designer would be required to give his approval to it as well. Do you want it to go to the designer?

(b)(6)
Deputy Project Manager
Dragados USA, Camp Lejeune
Sent from my iPhone

> On Jun 7, 2016, at 6:29 AM (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune
(b)(6) > wrote:

>
> (b)(6)
>
> Why are these being submitted to us? All technical submittals should be going to the DOR.

>
> (b)(6), PE
> Supervisory Construction Manager
> ROICC, Camp Lejeune, NC
> (b)(6)

> -----Original Message-----

> From (b)(6) mailto:(b)(6)]
> Sent: Thursday, June 02, 2016 12:36 PM
> To: (b)(6) CIV NAVFAC MIDLANT, ROICC Camp Lejeune; (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune; (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune; (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune
> Cc: (b)(6) (PM, Group III Management)
> Subject: [Non-DoD Source] TRANSMITTAL 1262, SPEC 27 10 00, TELECOMMUNICATIONS CABLING SYSTEM, SD-03, OUTDOOR RATED CAT-6 CABLE

>
> Good morning (b)(6). Attached is product data for the outdoor-rated telecomm cable for the CLEO building. (b)(6) has already stated this product is acceptable. Hard copies of this transmittal are enroute to your office. Thanks. R (b)(6)

>
>
>
> (b)(6) | Deputy Project Manager & Small Business Liaison | cid:image001.png@01CCA871.8C8E7960 |

>
>
> From (b)(6)
> Sent: Thursday, June 02, 2016 10:25 AM
> To: (b)(6) (NAVFAC Contract Spec); (b)(6) (b)(6); (b)(6)
> (b)(6)
> Cc: (b)(6) (Dragados Senior Vice President); (b)(6) (Dragados QC Specialist); (b)(6) (PM, Group III Management)
> Subject: FW: INDOOR/OUTDOOR CAT-6 CABLE

>
>
>
> Good morning. Below is Base Telephone's approval of an outdoor-rated CAT-6 cable we intend on using at the CLEO building. My QC Manager will submit this product data sheet today but with (b)(6) prior approval of the material I am authorizing my sub to install it tomorrow (3Jun). Thanks. R/ (b)(6)

> (b)(6) | Deputy Project Manager & Small Business Liaison | |

> -----Original Message-----

> From: (b)(6) [mailto:(b)(6)]

> Sent: Thursday, June 02, 2016 10:02 AM

> To: (b)(6)

> Cc: (b)(6)

> (b)(6)

> Subject: RE: INDOOR/OUTDOOR CAT-6 CABLE

>
>
>
> The attached product data sheet is acceptable to Base Telephone for the
>
> conduit running through the slab at the CLEO building, but only the ROICC can
>
> approve.

>
> I can only advise and recommend but have no approval authority, please contact
>
> the CM or ET for proper submittal procedures on the attached ...

> (b)(6)

> Lead Investigator / Inspector / IT Project Manager

> Base Telephone Building 25

> (b)(6)

> -----Original Message-----

> From: (b)(6) [mailto:(b)(6)] <mailto:(b)(6)>]

> Sent: Thursday, June 02, 2016 9:47 AM

> To: (b)(6)

> Cc: (b)(6) <mailto:(b)(6)> ; (b)(6) (PM, Group III

> Management)
>
> Subject: [Non-DoD Source] INDOOR/OUTDOOR CAT-6 CABLE
>
>
>
> Good afternoon (b)(6). Would you please review that attached product data
>
> sheet and advise if this is acceptable for the conduit running through the
>
> slab at the CLEO building? Thanks. R (b)(6)
>
>
>
> (b)(6) | Deputy Project Manager & Small Business Liaison | |
>
> 311 Parachute Tower Road | Camp Lejeune, NC 28542 |
>
> Phone: w (b)(6) | Email: (b)(6)
<[\(b\)\(6\)](mailto:(b)(6))>
>
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>

From: (b)(6)
To: (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune; (b)(6) NAVFAC MIDLANT, CI; (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune; (b)(6) NAVFAC MIDLANT, RIOCC Camp Lejeune
Cc: (b)(6) (Group III Mgt.); (b)(6) (PM, Group III Management); (b)(6) (Group III Mgt Superintendent); (b)(6)
Subject: [Non-DoD Source] TRANSMITTAL 1224 REV 2, CLEO PVT PLAN
Date: Wednesday, July 06, 2016 14:21:59
Attachments: [TRANSMITTAL 1224 REV 2, CLEO PVT PLAN.pdf](#)

Good afternoon (b)(6). Attached is the revised PVT plan for the CLEO building. It was reviewed and signed by my QC Manager. All changes identified by (b)(6) have been made. (b)(6) last comments are included as pages 43-49 of this attachment. Request (b)(6) review and comment as soon as he is able. I am sending this digitally-only for now. Please advise if you feel hard copy should follow. I recommend sending hard copy for the files once this gets approved. Thanks. R/ (b)(6)

(b)(6) | Deputy Project Manager & Small Business Liaison | |

311 Parachute Tower Road | Camp Lejeune, NC 28542 |

(b)(6)

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-----Original Message-----

From: (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune (b)(6)
Sent: Thursday, June 23, 2016 6:47 AM
To: (b)(6)
Subject: FW: P-1383 PVT Plan Sub03 Review Rev00 - DR
Importance: High

See attached PVT Plan Review. Please respond ASAP.

(b)(6), PE

Supervisory Construction Manager

ROICC, Camp Lejeune, NC

(b)(6)

-----Original Message-----

From (b)(6) NAVFAC MIDLANT, CI

Sent: Wednesday, June 22, 2016 4:20 PM

To (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune

Cc: (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune; (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune; (b)(6) (b)(6) <[mailto:\(b\)\(6\)](#)>
)

Subject: P-1383 PVT Plan Sub03 Review Rev00 - DR

(b)

Please find attached "2016-06-22a-P-1383 PVT Plan Sub03 Rvw Rev00" intended to serve as CI52's performance verification test (PVT) plan submission number 03 comments. KTR responses are requested within 14 calendar days. A resubmission is required upon closure of all issues.

It is anticipated the form fields will be completed and the MS Word document returned for CI52 follow-up.

All Others:

FYI

Respectfully,

(b)

(b)(6), EIT, PMP

Mechanical Acceptance Engineer

NAVFAC MidLant, Capital Improvements Acceptance, CI52

9324 Virginia Avenue, Bldg Z-140, Rm 126, Norfolk, VA 23511

(b)(6)

(b)(6) <[mailto:\(b\)\(6\)](#)>

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CONTRACTOR'S SUBMITTAL TRANSMITTAL

LANTDIV NORFOLK 4-43553 (Rev. 11-80)

CONTRACT NO.

N40085-12-C-7714

TRANSMITTAL NO.

06302016 1224 Rev2

DATE

6/30/2016

FROM CONTRACTOR

Dragados USA -

(b)(6)

TO

(b)(6)

Supervisory Construction Manager

PROJECT TITLE AND LOCATION

P1383 & P1384 - New Base Entry Point and Road at MCB Camp Lejeune

CONTRACTOR USE ONLY

*List only one specification division per form

List only one of the following categories on each transmittal form.
and indicate which is being submitted☐ Contractor Approved☒ OICC Approval☐

Deviation/Substitution

For OICC Approval

REVIEWER USE ONLY

** ACTION CODES

A-Approved

D-Disapproved

AN-Approved as noted

RA-Receipt acknowledged

C-Comments

R-Resubmit

ITEM NO	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO.	ITEM IDENTIFICATION (Type, size, model no., Mfg name, dwg. or brochure number)	NO. OF COPIES	ACTION CODES ***	REVIEWER'S INITIALS CODE AND DATE
1	23 09 23.13 22	BACnet Direct Digital Control Systems for HVAC	5,1		
		SD-05, Design data			
		Performance Verification Testing Plan (G)			

CONTRACTOR'S COMMENTS

Attention/ (b)(6) Commissioning Agent, CEMS Engineering|Architecture

The attached information is in support of the HVAC control systems for the **CLEO** buildings. The PVT plan was created by Triangle Automated Controls (TAC). THIS IS A RE-SUBMITTAL (REV 2) BASED ON PETER GLADE'S LAST REVIEW. Amended information included. Thanks. R/

(b)(6)

CONTRACTOR REPRESENTATIVE (Signature)

DATE RECEIVED BY REVIEWER

FROM (Reviewer)

TO



Submittals are returned with action indicated. Approval of an item does not include approval of any deviation from the contract requirements unless the contractor calls attention to and supports the deviation.



Submittals are forwarded to LANTDIV with A-E recommendations indicated in REVIEWER USE ONLY Section and in comments below on ONE COPY of the transmittal form.

REVIEWER'S COMMENTS

COPIES TO:

ROICC (2)
LANTDIV (1)
A-E (1)

DATE

SIGNATURE

Performance Test Report

Performance Verification Test

DIRECT DIGITAL CONTROLS
Section 23 09 23.13 22 SD-05

P1383/P1384 GAME WARDEN/BASE ENTRY

Camp Lejeune,
North Carolina

JUNE 30, 2016

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Performance Verification Test

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Performance Test Report

Section 23 09 23.13 22 SD-05

3.5.2 Performance Verification Test**GEOTHERMAL WATER SYSTEM – C.L.E.O. FACILITY**

1. THE GEOTHERMAL WATER SYSTEM (GTWS)- SHALL BE ENABLED WHENEVER ANY HEAT PUMP, HP-1 THRU HP-4 FAN STATUS IS SENSED.

#	Test	Response	Comment	Pass/Fail
	Pump-1 START/STOP			
A	DISABLE ALL THE HEAT PUMPS	PUMP-1 SHALL STOP		
B	ENABLE ANY HEAT PUMP	ONCE HEAT PUMP FAN STATUS HAS BEEN PROVEN, PUMP-1 SHALL RUN		

2. ALARMS SHALL BE SENT FOR PUMP FAILURE AND GEOTHERMAL LEAK.

#	Test	Response	Comment	Pass/Fail
	ALARMS			
A	COMMAND PUMP-1 ON AND PLACE THE DISCONNECT TO OFF POSTIION	AFTER 90 SECONDS AN ALARM SHALL BE GENERATED (CHW P-1 FAILURE)		
B	POSITION DRAIN HAND VALVE TO ALLOW FLOW THROUGH THE GEOTHERMAL WATER MAKE-UP SMART METERS.	AN ALARM SHALL BE GENERATED		

THIS UNIT HAS BEEN TESTED AND VERIFIED TO BE OPERATING PER DESIGN

Name: _____ Company: _____ Date: _____

Performance Test Report

Section 23 09 23.13 22 SD-05

3.5.2 Performance Verification Test**HPWH-1 WATER HEATER SYSTEM – C.L.E.O. FACILITY**

1. THE HPWH-1 SHALL MAINTAIN THE WATER TANK TEMPERATURE AT 130 DEG F.

#	Test	Response	Comment	Pass/Fail
	HPWH-1			
A	RAISE THE HPWH-1 TANK TEMP SETPOINT ABOVE CURRENT TANK TEMP	HPWH-1 AND PUMP-2 SHALL BE ENERGIZED		
B	LOWER THE HPWH-1 TANK TEMP SETPOINT BELOW THE CURRENT TANK TEMP	HPWH-1 AND PUMP-2 SHALL BE DE-ENERGIZED		

2. THE ELECTRIC WATER HEATER SHALL BE ENABLED IF THE TANK TEMP DROPS BELOW 120 DEG F.

3. THE ELECTRIC WATER HEATER SHALL HEAT THE WATER INSIDE THE TANK TO 140 DEG F ONCE A MONTH

#	Test	Response	Comment	Pass/Fail
	EWB-1			
A	RAISE THE EWB-1 TANK TEMP SETPOINT ABOVE THE CURRENT TANK TEMP	EWB-1 SHALL BE ENERGIZED		
B	LOWER THE EWB-1 TANK TEMP SETPOINT BELOW THE CURRENT TANK TEMP	EWB-1 SHALL BE DE-ENERGIZED		
C	CHANGE THE CALENDER SO THAT THE EWB-1 IS SCHEDULED TO RAISE THE WATER TEMP TO 140 DEG F	EWB-1 SHALL BE ENERGIZED UNTIL THE WATER TEMP IS RAISE TO 140 DEG F		

4. PUMP-3 SHALL BE ENERGIZED IN THE OCCUPIED MODE IF THE TEMP SENSOR LOCATED AT THE FARTHEST HOT WATER RECEIVING FIXTURE DROPS BELOW 95 DEG F.

5. IF PUMP IS ENERGIZED, IT SHALL RUN FOR A MINIMUM OF 3 MINUTES.

#	Test	Response	Comment	Pass/Fail
	PUMP-3			
A	PLACE THE SYSTEM IN THE OCCUPIED MODE AND RAISE THE FIXTURE TEMP SETPOINT ABOVE THE CURRENT FIXTURE TEMP	PUMP-3 SHALL START		
B	LOWER THE FIXTURE TEMP SETPOINT BELOW THE CURRENT FIXTURE TEMP	PUMP-3 SHALL STOP IF IT HAS BEEN RUNNING FOR MORE THAN 3 MINUTES OR RUN UNTIL 3 MINTUES HAS ELAPASED AND THEN STOP		

6. ALARMS SHALL BE SENT FOR PUMP FAILURES AND LOW WATER HEATER STORAGE INLET TEMP.

#	Test	Response	Comment	Pass/Fail
	ALARMS			
A	COMMAND P-2 ON AND PLACE THE DISCONNECT IN THE OFF POSITION	AFTER 90 SECONDS AN ALARM SHALL BE GENERATED		
B	COMMAND P-3 ON AND PLACE THE DISCONNECT IN THE OFF POSITION	AFTER 90 SECONDS AN ALARM SHALL BE GENERATED		
C	RAISE THE INLET WATER STORAGE TANK TEMP SETPOINT ABOVE THE CURRENT TEMP	AFTER 30 SECONDS AN ALARM SHALL BE GENERATED		

THIS UNIT HAS BEEN TESTED AND VERIFIED TO BE OPERATING PER DESIGN

Name:_____ **Company:**_____ **Date:**_____

Performance Test Report

Section 23 09 23.13 22 SD-05

3.5.2 Performance Verification Test**ERV-1 - C.L.E.O. FACILITY**

1. THE ERV SHALL RUN CONTINUOUSLY DURING THE OCCUPIED MODE AND SHUTDOWN IN THE UNOCCUPIED MODE

#	Test	Response	Comment	Pass/Fail
	ERV-1 START/STOP CONTROL			
A	OVERRIDE THE SYSTEM TO UNOCCUPIED MODE	ERV-1 SUPPLY AND EXHAUST FAN SHALL STOP AND THE OUTSIDE AND EXHAUST AIR DAMPERS SHALL CLOSE		
B	OVERRIDE THE SYSTEM TO OCCUPIED MODE	OUTSIDE AND EXHAUST AIR DAMPER SHALL OPEN AND THE SUPPLY AND EXHAUST FANS SHALL START AND RUN CONTINUOUSLY UNTIL OVERRIDE REMOVED		

2. ALARMS SHALL BE SENT IF THE FOLLOWING CONDITIONS ARE MET:
- SUPPLY FAN AND EXHAUST FAIL TO RUN
 - DIRTY FILTER
 - WHEEL FAILS TO RUN

#	Test	Response	Comment	Pass/Fail
	ERV-1 ALARMS			
A	TRIP THE OA FILTER DIFFERENTIAL PRESSURE TO SIMULATE A DIRTY FILTER	AN ALARM SHALL BE GENERATED		
B	TRIP THE EA FILTER DIFFERENTIAL PRESSURE TO SIMULATE A DIRTY FILTER	AN ALARM SHALL BE GENERATED		
C	COMMAND ERV "ON" AND PLACE THE SUPPLY FAN DISCONNECT IN THE OFF POSITION	AFTER 90 SECONDS AN ALARM SHALL BE GENERATED AND UNIT SHALL BE DISABLED		
D	COMMAND ERV "ON" AND PLACE THE EXHAUST FAN DISCONNECT IN THE OFF POSITION	AFTER 90 SECONDS AN ALARM SHALL BE GENERATED AND UNIT SHALL BE DISABLED		
E	COMMAND ERV "ON" AND PLACE THE EXHAUST FAN DISCONNECT IN THE OFF POSITION	AFTER 90 SECONDS AN ALARM SHALL BE GENERATED AND UNIT SHALL BE DISABLED		
F	CTRIP THE WHEEL FILTER DIFFERENTIAL PRESSURE TO SIMULATE A DIRTY WHEEL	AN ALARM SHALL BE GENERATED		

THIS UNIT HAS BEEN TESTED AND VERIFIED TO BE OPERATING PER DESIGN

Name: _____ Company: _____ Date: _____

Performance Test Report

Section 23 09 23.13 22 SD-05

3.5.2 Performance Verification Test**HP-1 – C.L.E.O. FACILITY**

1. DURING THE OCCUPIED MODE THE HP-1 SHALL MAINTAIN A COOLING SETPOINT OF 75 DEG F AND A HEAT SETPOINTING OF 70 DEG F. UNIT SHALL CYCLE ON TO MAINTAIN THE OCCUPIED HEATING AND COOLING SETPOINT.

#	Test	Response	Comment	Pass/Fail
	HP-1 OCCUPIED HEATING MODE			
A	RAISE THE HEATING SETPOINT ABOVE THE CURRENT SPACE TEMP	THE OUTSIDE AIR DAMPER WILL OPEN AND THE HEATPUMP AND FAN WILL CYCLE ON ONCE THE SOLENOID VALVE OPENS AND FLOW IS ESTABLISHED. FLOW WILL BE VERIFIED BY CHECKING PRESSURE DROP THROUGH COIL OR AUTOFLOW VALVE. THE UNIT WILL THEN OPERATE ON INTERNAL CONTROLS TO MAINTAIN THE SETPOINT THE FAN STATUS WILL BE MONITORED ON THE BAS		
B	LOWER THE HEATING SETPOINT BELOW THE CURRENT SPACE TEMP	THE HEATPUMP WILL CYCLE OFF (FAN & COMPRESSOR)AND THE OUTSIDE AIR DAMPER SHALL CLOSE AND SOLENOID VALVE WILL CLOSE		
	HP-1 OCCUPIED COOLING MODE			
A	LOWER THE COOLING SETPOINT BELOW THE CURRENT SPACE TEMP	THE OUTSIDE AIR DAMPER WILL OPEN AND THE HEATPUMP AND FAN WILL CYCLE ON THE UNIT WILL THEN OPERATE ON INTERNAL CONTROLS TO MAINTAIN THE SETPOINT		
B	RAISE THE COOLING SETPOINT ABOVE THE CURRENT SPACE TEMP	THE HEATPUMP WILL CYCLE OFF (FAN & COMPRESSOR AND THE OUTSIDE AIR DAMPER SHALL CLOSE AND SOLENOID WILL CLOSE		

2. DURING THE UNOCCUPIED MODE THE HP-1 SHALL MAINTAIN A COOLING SETPOINT OF 85 DEG F AND A HEAT SETPOINTING OF 60 DEG F. UNIT SHALL CYCLE ON TO MAINTAIN THE UNOCCUPIED HEATING AND COOLING SETPOINT.

#	Test	Response	Comment	Pass/Fail
	HP-1 UNOCCUPIED MODE HEATING			
A	RAISE THE HEATING SETPOINT ABOVE THE CURRENT SPACE TEMP	THE OUTSIDE AIR DAMPER WILL REMAIN CLOSED. THE HEATPUMP WILL CYCLE ON. THE UNIT WILL THEN OPERATE ON INTERNAL CONTROLS TO MAINTAIN THE SETPOINT		
B	LOWER THE HEATING SETPOINT BELOW THE CURRENT SPACE TEMP	THE HEATPUMP WILL CYCLE OFF		
	HP-1 UNOCCUPIED MODE COOLING			
A	CHANGE THE COOLING SETPOINT BELOW THE CURRENT SPACE TEMP	THE HEAT PUMP WILL BE ON AND MAINTAIN SETPOINT		

3. ALARM SHALL BE SENT IF THE FOLLOWING CONDITIONS ARE MET:

a. DIRTY FILTER STATUS

NOTE: ADDITIONAL ALARMS ARE DISPLAYED AT THE UNIT BY LED'S INDICATING THE SPECIFIC FAILURE (i.e. HIGH PRESSURE, LOW PRESSURE, LOW WATER TEMPERATURE, LOW VOLTAGE, HIGH VOLTAGE, CONTROL VOLTAGE)

#	Test	Response	Comment	Pass/Fail
	HP ALARMS			
A	TRIP THE FILTER DIFFERENTIAL PRESSURE TO SIMULATE A DIRTY FILTER	AN ALARM SHALL BE GENERATED TO BAS		

b. LOW TEMPERATURE SWITCH CUT OUT:

#	Test	Response	Comment	Pass/Fail
	HP-1 HEATING MODE			
A	CUT OFF WATERFLOW	COMPRESSOR OPERATION WILL BE SHUT OFF BY LOW TEMPERATURE SWITCH AND AN ALARM GENERATED AT THE BCS AND ZONE SENSOR PANEL		

c. HIGH PRESSURE CUT OUT:

#	Test	Response	Comment	Pass/Fail
	HP-1 COOLING MODE			
A	LOWER TEMPERATURE SETTING BELOW SET POINT. CUT OFF WATER FLOW	COMPRESSOR WILL BE SHUT OFF BY HIGH PRESSURE CUT OUT AND AN ALARM GENERATED AT THE BCS AND ZONE SENSOR PANEL		

4. FAN OPERATION TO CYCLE ON OFF AS REQUIRED:

#	Test	Response	Comment	Pass/Fail
	HP-1 COOLING- OCCUPIED AND UNOCCUPIED			
A	LOWER SPACE THERMOSTAT BELOW SET POINT	FAN WILL CYCLE ON AND REPORT TO BAS.		
	HP-1 HEATING OCCUPIED AND UNOCCUPIED			
B	RAISE SPACE TEMPATURE ABOVE SET POINT	FAN WILL CYCLE ON. AND REPORT TO BAS.		

5. COMPRESSOR AND REVERSING VALVE CYCLING OPERATION TIME DELAY:

#	Test	Response	Comment	Pass/Fail
	HP-1 COOLING MODE			
A	RAISE SET POINT ABOVE WHAT IS REQUIRED TO BRING ON HEATING	COMPRESSOR WILL BE DELAYED BY APPROXIMATELY 5 MINUTES BEFORE RESTARTING TO ALLOW FOR REVERSING VALVE TO SWITCH TO HEATING		
	HP-1 HEATING MODE			
B	LOWER SET POINT SETTING BEYOND EXISTING SET POINT BELOW WHAT IS REQUIRED FOR COOLING	COMPRESSOR START WILL BE DELAYED FOR APPROXIMATELY 5 MINUTES TO ALLOW FOR REVERSING VALVE TO SWITCH TO COOLING		

6. CONFIRMING WALL MOUNTED SET POINT ADJUSTMENT:

#	Test	Response	Comment	Pass/Fail
	HEAT PUMP-OCCUPIED MODE- HEATING			
A	ADJUST SET POINT UP 2 DEGREES	UNIT TO CYCLE ON		
	HEAT PUMP-OCCUPIED MODE- COOLING			
B	ADJUST SET POINT 2 DEGREES LOWER	UNIT TO CYCLE ON		

7. CONFIRMING 2 HOUR OVERRIDE:

#	Test	Response	Comment	Pass/Fail
	HEAT PUMP-UNOCCUPIED MODE			
	ACTIVATE PUSH BUTTON OVERRIDE ON WALL MOUNTED SENSOR	UNIT TO OPERATE FOR 2 HRS UNDER ITS OWN CONTROLS THEN RETURN TO UNOCCUPIED		

8. ZONE SENSOR:

#	Test	Response	Comment	Pass/Fail
A	DISCONNECT THERMOSTAT	ZONE SENSOR FAILURE GENERATE AT BAS AND THE UNIT WILL BE SHUTDOWN		

THIS UNIT HAS BEEN TESTED AND VERIFIED TO BE OPERATING PER DESIGN

Name: _____ Company: _____ Date: _____

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3.5.2 Performance Verification Test**HP-2 – C.L.E.O. FACILITY**

1. DURING THE OCCUPIED MODE THE HP-2 SHALL MAINTAIN A COOLING SETPOINT OF 75 DEG F AND A HEAT SETPOINTING OF 70 DEG F. UNIT SHALL CYCLE ON TO MAINTAIN THE OCCUPIED HEATING AND COOLING SETPOINT.

#	Test	Response	Comment	Pass/Fail
	HP-1 OCCUPIED HEATING MODE			
A	RAISE THE HEATING SETPOINT ABOVE THE CURRENT SPACE TEMP	THE HEATPUMP AND FAN WILL CYCLE ON ONCE THE SOLENOID VALVE OPENS AND FLOW IS ESTABLISHED. FLOW WILL BE VERIFIED BY CHECKING PRESSURE DROP THROUGH COIL OR AUTOFLOW VALVE. THE UNIT WILL THEN OPERATE ON INTERNAL CONTROLS TO MAINTAIN THE SETPOINT THE FAN STATUS WILL BE MONITORED ON THE BAS		
B	LOWER THE HEATING SETPOINT BELOW THE CURRENT SPACE TEMP	THE HEATPUMP WILL CYCLE OFF (FAN & COMPRESSOR) SHALL CLOSE AND SOLENOID VALVE WILL CLOSE		
	HP-1 OCCUPIED COOLING MODE			
A	LOWER THE COOLING SETPOINT BELOW THE CURRENT SPACE TEMP	THE UNIT WILL THEN OPERATE ON INTERNAL CONTROLS TO MAINTAIN THE SETPOINT		
B	RAISE THE COOLING SETPOINT ABOVE THE CURRENT SPACE TEMP	THE HEATPUMP WILL CYCLE OFF (FAN & COMPRESSOR AND SOLENOID WILL CLOSE		

2. DURING THE UNOCCUPIED MODE THE HP-1 SHALL MAINTAIN A COOLING SETPOINT OF 85 DEG F AND A HEAT SETPOINTING OF 60 DEG F. UNIT SHALL CYCLE ON TO MAINTAIN THE UNOCCUPIED HEATING AND COOLING SETPOINT.

#	Test	Response	Comment	Pass/Fail
	HP-1 UNOCCUPIED MODE HEATING			
A	RAISE THE HEATING SETPOINT ABOVE THE CURRENT SPACE TEMP	THE HEATPUMP WILL CYCLE ON. THE UNIT WILL THEN OPERATE ON INTERNAL CONTROLS TO MAINTAIN THE SETPOINT		
B	LOWER THE HEATING SETPOINT BELOW THE CURRENT SPACE TEMP	THE HEATPUMP WILL CYCLE OFF		

	HP-1 UNOCCUPIED MODE COOLING			
A	CHANGE THE COOLING SETPOINT BELOW THE CURRENT SPACE TEMP	THE HEAT PUMP WILL BE ON AND MAINTAIN SETPOINT		

3. ALARM SHALL BE SENT IF THE FOLLOWING CONDITIONS ARE MET:

a. DIRTY FILTER STATUS

NOTE: ADDITIONAL ALARMS ARE DISPLAYED AT THE UNIT BY LED'S INDICATING THE SPECIFIC FAILURE (i.e. HIGH PRESSURE, LOW PRESSURE, LOW WATER TEMPERATURE, LOW VOLTAGE, HIGH VOLTAGE, CONTROL VOLTAGE)

#	Test	Response	Comment	Pass/Fail
	HP ALARMS			
A	TRIP THE FILTER DIFFERENTIAL PRESSURE TO SIMULATE A DIRTY FILTER	AN ALARM SHALL BE GENERATED TO BAS		

b. LOW TEMPERATURE SWITCH CUT OUT:

#	Test	Response	Comment	Pass/Fail
	HP-1 HEATING MODE			
A	CUT OFF WATERFLOW	COMPRESSOR OPERATION WILL BE SHUT OFF BY LOW TEMPERATURE SWITCH AND AN ALARM GENERATED AT THE BCS AND ZONE SENSOR PANEL		

c. HIGH PRESSURE CUT OUT:

#	Test	Response	Comment	Pass/Fail
	HP-1 COOLING MODE			
A	LOWER TEMPERATURE SETTING BELOW SET POINT. CUT OFF WATER FLOW	COMPRESSOR WILL BE SHUT OFF BY HIGH PRESSURE CUT OUT AND AN ALARM GENERATED AT THE BCS AND ZONE SENSOR PANEL		

4. FAN OPERATION TO CYCLE ON OFF AS REQUIRED:

#	Test	Response	Comment	Pass/Fail
	HP-1 COOLING- OCCUPIED AND UNOCCUPIED			
A	LOWER SPACE THERMOSTAT BELOW SET POINT	FAN WILL CYCLE ON AND REPORT TO BAS.		
	HP-1 HEATING OCCUPIED AND UNOCCUPIED			
B	RAISE SPACE TEMPATURE ABOVE SET POINT	FAN WILL CYCLE ON. AND REPORT TO BAS.		

5. COMPRESSOR AND REVERSING VALVE CYCLING OPERATION TIME DELAY:

#	Test	Response	Comment	Pass/Fail
	HP-1 COOLING MODE			
A	RAISE SET POINT ABOVE WHAT IS REQUIRED TO BRING ON HEATING	COMPRESSOR WILL BE DELAYED BY APPROXIMATELY 5 MINUTES BEFORE RESTARTING TO ALLOW FOR REVERSING VALVE TO SWITCH TO HEATING		
	HP-1 HEATING MODE			
B	LOWER SET POINT SETTING BEYOND EXISTING SET POINT BELOW WHAT IS REQUIRED FOR COOLING	COMPRESSOR START WILL BE DELAYED FOR APPROXIMATELY 5 MINUTES TO ALLOW FOR REVERSING VALVE TO SWITCH TO COOLING		

6. CONFIRMING WALL MOUNTED SET POINT ADJUSTMENT:

#	Test	Response	Comment	Pass/Fail
	HEAT PUMP-OCCUPIED MODE-HEATING			
A	ADJUST SET POINT UP 2 DEGREES	UNIT TO CYCLE ON		
	HEAT PUMP-OCCUPIED MODE-COOLING			
B	ADJUST SET POINT 2 DEGREES LOWER	UNIT TO CYCLE ON		

7. CONFIRMING 2 HOUR OVERRIDE:

#	Test	Response	Comment	Pass/Fail
	HEAT PUMP-UNOCCUPIED MODE			
	ACTIVATE PUSH BUTTON OVERRIDE ON WALL MOUNTED SENSOR	UNIT TO OPERATE FOR 2 HRS UNDER ITS OWN CONTROLS THEN RETURN TO UNOCCUPIED		

8. ZONE SENSOR:

#	Test	Response	Comment	Pass/Fail
A	DISCONNECT THERMOSTAT	ZONE SENSOR FAILURE GENERATE AT BAS AND THE UNIT WILL BE SHUTDOWN		

THIS UNIT HAS BEEN TESTED AND VERIFIED TO BE OPERATING PER DESIGN

Name: _____ Company: _____ Date: _____

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3.5.2 Performance Verification Test**HP-3 – C.L.E.O. FACILITY**

1. DURING THE OCCUPIED MODE THE HP-3 SHALL MAINTAIN A COOLING SETPOINT OF 75 DEG F AND A HEAT SETPOINTING OF 70 DEG F. UNIT SHALL CYCLE ON TO MAINTAIN THE OCCUPIED HEATING AND COOLING SETPOINT.

#	Test	Response	Comment	Pass/Fail
	HP-1 OCCUPIED HEATING MODE			
A	RAISE THE HEATING SETPOINT ABOVE THE CURRENT SPACE TEMP	THE HEATPUMP AND FAN WILL CYCLE ON ONCE THE SOLENOID VALVE OPENS AND FLOW IS ESTABLISHED. FLOW WILL BE VERIFIED BY CHECKING PRESSURE DROP THROUGH COIL OR AUTOFLOW VALVE. THE UNIT WILL THEN OPERATE ON INTERNAL CONTROLS TO MAINTAIN THE SETPOINT THE FAN STATUS WILL BE MONITORED ON THE BAS		
B	LOWER THE HEATING SETPOINT BELOW THE CURRENT SPACE TEMP	THE HEATPUMP WILL CYCLE OFF (FAN & COMPRESSOR) SHALL CLOSE AND SOLENOID VALVE WILL CLOSE		
	HP-1 OCCUPIED COOLING MODE			
A	LOWER THE COOLING SETPOINT BELOW THE CURRENT SPACE TEMP	THE UNIT WILL THEN OPERATE ON INTERNAL CONTROLS TO MAINTAIN THE SETPOINT		
B	RAISE THE COOLING SETPOINT ABOVE THE CURRENT SPACE TEMP	THE HEATPUMP WILL CYCLE OFF (FAN & COMPRESSOR AND SOLENOID WILL CLOSE		

2. DURING THE UNOCCUPIED MODE THE HP-1 SHALL MAINTAIN A COOLING SETPOINT OF 85 DEG F AND A HEAT SETPOINTING OF 60 DEG F. UNIT SHALL CYCLE ON TO MAINTAIN THE UNOCCUPIED HEATING AND COOLING SETPOINT.

#	Test	Response	Comment	Pass/Fail
	HP-1 UNOCCUPIED MODE HEATING			
A	RAISE THE HEATING SETPOINT ABOVE THE CURRENT SPACE TEMP	THE HEATPUMP WILL CYCLE ON. THE UNIT WILL THEN OPERATE ON INTERNAL CONTROLS TO MAINTAIN THE SETPOINT		
B	LOWER THE HEATING SETPOINT	THE HEATPUMP WILL CYCLE OFF		

	BELOW THE CURRENT SPACE TEMP			
	HP-1 UNOCCUPIED MODE COOLING			
A	CHANGE THE COOLING SETPOINT BELOW THE CURRENT SPACE TEMP	THE HEAT PUMP WILL BE ON AND MAINTAIN SETPOINT		

3. ALARM SHALL BE SENT IF THE FOLLOWING CONDITIONS ARE MET:

a. DIRTY FILTER STATUS

NOTE: ADDITIONAL ALARMS ARE DISPLAYED AT THE UNIT BY LED'S INDICATING THE SPECIFIC FAILURE (i.e. HIGH PRESSURE, LOW PRESSURE, LOW WATER TEMPERATURE, LOW VOLTAGE, HIGH VOLTAGE, CONTROL VOLTAGE)

#	Test	Response	Comment	Pass/Fail
	HP ALARMS			
A	TRIP THE FILTER DIFFERENTIAL PRESSURE TO SIMULATE A DIRTY FILTER	AN ALARM SHALL BE GENERATED TO BAS		

b. LOW TEMPERATURE SWITCH CUT OUT: ALARM

#	Test	Response	Comment	Pass/Fail
	HP-1 HEATING MODE			
A	CUT OFF WATERFLOW	COMPRESSOR OPERATION WILL BE SHUT OFF BY LOW TEMPERATURE SWITCH AND AN ALARM GENERATED AT THE BCS AND ZONE SENSOR PANEL		

c. HIGH PRESSURE CUT OUT: ALARM

#	Test	Response	Comment	Pass/Fail
	HP-1 COOLING MODE			
A	LOWER TEMPERATURE SETTING BELOW SET POINT. CUT OFF WATER FLOW	COMPRESSOR WILL BE SHUT OFF BY HIGH PRESSURE CUT OUT AND AN ALARM GENERATED AT THE BCS AND ZONE SENSOR PANEL		

4. FAN OPERATION TO CYCLE ON OFF AS REQUIRED:

#	Test	Response	Comment	Pass/Fail
	HP-1 COOLING- OCCUPIED AND UNOCCUPIED			
A	LOWER SPACE THERMOSTAT BELOW SET POINT	FAN WILL CYCLE ON AND REPORT TO BAS.		
	HP-1 HEATING OCCUPIED AND UNOCCUPIED			
B	RAISE SPACE TEMPERTURE ABOVE SET POINT	FAN WILL CYCLE ON. AND REPORT TO BAS.		

5. COMPRESSOR AND REVERSING VALVE CYCLING OPERATION TIME DELAY:

#	Test	Response	Comment	Pass/Fail
	HP-1 COOLING MODE			
A	RAISE SET POINT ABOVE WHAT IS REQUIRED TO BRING ON HEATING	COMPRESSOR WILL BE DELAYED BY APPROXIMATELY 5 MINUTES BEFORE RESTARTING TO ALLOW FOR REVERSING VALVE TO SWITCH TO HEATING		
	HP-1 HEATING MODE			
B	LOWER SET POINT SETTING BEYOND EXISTING SET POINT BELOW WHAT IS REQUIRED FOR COOLING	COMPRESSOR START WILL BE DELAYED FOR APPROXIMATELY 5 MINUTES TO ALLOW FOR REVERSING VALVE TO SWITCH TO COOLING		

6. CONFIRMING WALL MOUNTED SET POINT ADJUSTMENT:

#	Test	Response	Comment	Pass/Fail
	HEAT PUMP-OCCUPIED MODE-HEATING			
A	ADJUST SET POINT UP 2 DEGREES	UNIT TO CYCLE ON		
	HEAT PUMP-OCCUPIED MODE-COOLING			
B	ADJUST SET POINT 2 DEGREES LOWER	UNIT TO CYCLE ON		

7. CONFIRMING 2 HOUR OVERRIDE:

#	Test	Response	Comment	Pass/Fail
	HEAT PUMP-UNOCCUPIED MODE			
	ACTIVATE PUSH BUTTON OVERRIDE ON WALL MOUNTED SENSOR	UNIT TO OPERATE FOR 2 HRS UNDER ITS OWN CONTROLS THEN RETURN TO UNOCCUPIED		

8. ZONE SENSOR:

#	Test	Response	Comment	Pass/Fail
A	DISCONNECT THERMOSTAT	ZONE SENSOR FAILURE GENERATE AT BAS AND THE UNIT WILL BE SHUTDOWN		

THIS UNIT HAS BEEN TESTED AND VERIFIED TO BE OPERATING PER DESIGN

Name: _____ Company: _____ Date: _____

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3.5.2 Performance Verification Test**HP-4 – C.L.E.O. FACILITY**

1. DURING THE OCCUPIED MODE THE HP-4 SHALL MAINTAIN A COOLING SETPOINT OF 75 DEG F AND A HEAT SETPOINTING OF 70 DEG F. UNIT SHALL CYCLE ON TO MAINTAIN THE OCCUPIED HEATING AND COOLING SETPOINT.

#	Test	Response	Comment	Pass/Fail
	HP-1 OCCUPIED HEATING MODE			
A	RAISE THE HEATING SETPOINT ABOVE THE CURRENT SPACE TEMP	THE HEATPUMP AND FAN WILL CYCLE ON ONCE THE SOLENOID VALVE OPENS AND FLOW IS ESTABLISHED. FLOW WILL BE VERIFIED BY CHECKING PRESSURE DROP THROUGH COIL OR AUTOFLOW VALVE. THE UNIT WILL THEN OPERATE ON INTERNAL CONTROLS TO MAINTAIN THE SETPOINT THE FAN STATUS WILL BE MONITORED ON THE BAS		
B	LOWER THE HEATING SETPOINT BELOW THE CURRENT SPACE TEMP	THE HEATPUMP WILL CYCLE OFF (FAN & COMPRESSOR) SHALL CLOSE AND SOLENOID VALVE WILL CLOSE		
	HP-1 OCCUPIED COOLING MODE			
A	LOWER THE COOLING SETPOINT BELOW THE CURRENT SPACE TEMP	THE UNIT WILL THEN OPERATE ON INTERNAL CONTROLS TO MAINTAIN THE SETPOINT		
B	RAISE THE COOLING SETPOINT ABOVE THE CURRENT SPACE TEMP	THE HEATPUMP WILL CYCLE OFF (FAN & COMPRESSOR AND SOLENOID WILL CLOSE		

2. DURING THE UNOCCUPIED MODE THE HP-1 SHALL MAINTAIN A COOLING SETPOINT OF 85 DEG F AND A HEAT SETPOINTING OF 60 DEG F. UNIT SHALL CYCLE ON TO MAINTAIN THE UNOCCUPIED HEATING AND COOLING SETPOINT.

#	Test	Response	Comment	Pass/Fail
	HP-1 UNOCCUPIED MODE HEATING			
A	RAISE THE HEATING SETPOINT ABOVE THE CURRENT SPACE TEMP	THE HEATPUMP WILL CYCLE ON. THE UNIT WILL THEN OPERATE ON INTERNAL CONTROLS TO MAINTAIN THE SETPOINT		
B	LOWER THE HEATING SETPOINT BELOW THE CURRENT SPACE TEMP	THE HEATPUMP WILL CYCLE OFF		

	HP-1 UNOCCUPIED MODE COOLING			
A	CHANGE THE COOLING SETPOINT BELOW THE CURRENT SPACE TEMP	THE HEAT PUMP WILL BE ON AND MAINTAIN SETPOINT		

3. ALARM SHALL BE SENT IF THE FOLLOWING CONDITIONS ARE MET:

a. DIRTY FILTER STATUS

NOTE: ADDITIONAL ALARMS ARE DISPLAYED AT THE UNIT BY LED'S INDICATING THE SPECIFIC FAILURE (i.e. HIGH PRESSURE, LOW PRESSURE, LOW WATER TEMPERATURE, LOW VOLTAGE, HIGH VOLTAGE, CONTROL VOLTAGE)

#	Test	Response	Comment	Pass/Fail
	HP ALARMS			
A	TRIP THE FILTER DIFFERENTIAL PRESSURE TO SIMULATE A DIRTY FILTER	AN ALARM SHALL BE GENERATED TO BAS		

b. LOW TEMPERATURE SWITCH CUT OUT:

#	Test	Response	Comment	Pass/Fail
	HP-1 HEATING MODE			
A	CUT OFF WATERFLOW	COMPRESSOR OPERATION WILL BE SHUT OFF BY LOW TEMPERATURE SWITCH AND AN ALARM GENERATED AT THE BCS AND ZONE SENSOR PANEL		

c. HIGH PRESSURE CUT OUT:

#	Test	Response	Comment	Pass/Fail
	HP-1 COOLING MODE			
A	LOWER TEMPERATURE SETTING BELOW SET POINT. CUT OFF WATER FLOW	COMPRESSOR WILL BE SHUT OFF BY HIGH PRESSURE CUT OUT AND AN ALARM GENERATED AT THE BCS AND ZONE SENSOR PANEL		

4. FAN OPERATION TO CYCLE ON OFF AS REQUIRED:

#	Test	Response	Comment	Pass/Fail
	HP-1 COOLING- OCCUPIED AND UNOCCUPIED			
A	LOWER SPACE THERMOSTAT BELOW SET POINT	FAN WILL CYCLE ON AND REPORT TO BAS.		
	HP-1 HEATING OCCUPIED AND UNOCCUPIED			
B	RAISE SPACE TEMPATURE ABOVE SET POINT	FAN WILL CYCLE ON. AND REPORT TO BAS.		

5. COMPRESSOR AND REVERSING VALVE CYCLING OPERATION TIME DELAY:

#	Test	Response	Comment	Pass/Fail
	HP-1 COOLING MODE			
A	RAISE SET POINT ABOVE WHAT IS REQUIRED TO BRING ON HEATING	COMPRESSOR WILL BE DELAYED BY APPROXIMATELY 5 MINUTES BEFORE RESTARTING TO ALLOW FOR REVERSING VALVE TO SWITCH TO HEATING		
	HP-1 HEATING MODE			
B	LOWER SET POINT SETTING BEYOND EXISTING SET POINT BELOW WHAT IS REQUIRED FOR COOLING	COMPRESSOR START WILL BE DELAYED FOR APPROXIMATELY 5 MINUTES TO ALLOW FOR REVERSING VALVE TO SWITCH TO COOLING		

6. CONFIRMING WALL MOUNTED SET POINT ADJUSTMENT:

#	Test	Response	Comment	Pass/Fail
	HEAT PUMP-OCCUPIED MODE-HEATING			
A	ADJUST SET POINT UP 2 DEGREES	UNIT TO CYCLE ON		
	HEAT PUMP-OCCUPIED MODE-COOLING			
B	ADJUST SET POINT 2 DEGREES LOWER	UNIT TO CYCLE ON		

7. CONFIRMING 2 HOUR OVERRIDE:

#	Test	Response	Comment	Pass/Fail
	HEAT PUMP-UNOCCUPIED MODE			
	ACTIVATE PUSH BUTTON OVERRIDE ON WALL MOUNTED SENSOR	UNIT TO OPERATE FOR 2 HRS UNDER ITS OWN CONTROLS THEN RETURN TO UNOCCUPIED		

8. ZONE SENSOR:

#	Test	Response	Comment	Pass/Fail
A	DISCONNECT THERMOSTAT	ZONE SENSOR FAILURE GENERATE AT BAS AND THE UNIT WILL BE SHUTDOWN		

THIS UNIT HAS BEEN TESTED AND VERIFIED TO BE OPERATING PER DESIGN

Name: _____ Company: _____ Date: _____

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3.5.2 Performance Verification Test**EF-1 (FEMALE HEAD) & EF-2 (MALE HEAD) – C.L.E.O. FACILITY**

1. THE FANS ARE CONTROLLED BY AN OCCUPNACY SENSOR.
2. UPON DETECTION THAT THE ROOM IS OCCUPIED THE EXHAUST FAN SHALL START AND THE BACKDRAFT DAMPER SHALL OPEN.
3. UPON A SIGNAL FROM THE ATPF SWITCH THE UNIT SHALL STOP ALL FANS AND CLOSE ALL DAMPERS.

#	Test	Response	Comment	Pass
	EF-1 (FEMALE HEAD) CONTROL			
	ENTER THEN HEAD ROOM	FAN SHALL START		
	EXIST THE HEAD ROOM	AFTER 5 MIN. THE FAN SHALL STOP		
	EF-2 (MALE HEAD) CONTROL			
	ENTER THEN HEAD ROOM	FAN SHALL START		
	EXIST THE HEAD ROOM	AFTER 5 MIN. THE FAN SHALL STOP		

THIS UNIT HAS BEEN TESTED AND VERIFIED TO BE OPERATING PER DESIGN

Name: _____ Company: _____ Date: _____

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3.5.2 Performance Verification Test**EF-3 (VEHICLE BAY) – C.L.E.O. FACILITY**

1. THE FAN FROM A SPACE CARBON MONOXIDE SENSOR.
2. UPON A RISE IN CO LEVEL ABOVE THE SETPOINT THE FAN SHALL BE ENERGIZED
3. UPON A DROP IN CO LEVEL BELOW THE SETPOINT THE FAN SHALL

#	Test	Response	Comment	Pass
	EF-3 (VEHICLE BAY) CONTROL			
	LOWER THE CO SETPOINT BELOW THE CURRENT SETPOINT	FAN SHALL START		
	RAISE THE CO SETPOINT ABOVE THE CURRENT SETPOINT	FAN SHALL STOP		

THIS UNIT HAS BEEN TESTED AND VERIFIED TO BE OPERATING PER DESIGN

Name: _____ Company: _____ Date: _____

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3.5.2 Performance Verification Test**MDSS/MDCU-1 – C.L.E.O. FACILITY**

1. OPERATE THE MDSS/MDCU FROM ITS OWN SELF CONTAINED CONTROLS.
2. WHEN MDSS/MDCU THERMOSTAT CALLS FOR AIR CONDITIONING, MDSS/MDCU WILL START AND MAINTAIN SPACE SETPOINT.
3. WHEN THE SPACE TEMP IS SATISFIED, MDSS/MDCU WILL STOP.

#	Test	Response	Comment	Pass
	MDSS/MDCU-1 CONTROL			
	LOWER THE THERMOSTAT BELOW THE CURRENT SPACE TEMP	MDSS/MDCU-1 SHALL START		
	RAISE THE THERMOSTAT ABOVE THE CURRENT SPACE TEMP	MDSS/MDCU-1 SHALL STOP		

THIS UNIT HAS BEEN TESTED AND VERIFIED TO BE OPERATING PER DESIGN

Name: _____ Company: _____ Date: _____

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3.5.2 Performance Verification Test**MDSS-2/MDHP-2 – C.L.E.O. FACILITY**

4. OPERATE THE MDSS-2/MDHP-2 FROM ITS OWN SELF CONTAINED CONTROLS.
5. WHEN MDSS-2/MDHP-2 THERMOSTAT CALLS FOR HEAT OR COOL, MDSS-2/MDHP-2 WILL START AND MAINTAIN SPACE SETPOINT.
6. WHEN THE SPACE TEMP IS SATISFIED, MDHP/MDCU WILL STOP.

#	Test	Response	Comment	Pass
	MDSS-2/MDHP-2 CONTROL			
	LOWER THE THERMOSTAT BELOW THE CURRENT SPACE TEMP	MDSS-2/MDHP-2 SHALL CYCLE TO COOLING AND START		
	SET THE THERMOSTAT TO ROOM TEMP	MDSS-2/MDHP-2 SHALL STOP		
	RAISE THE THERMOSTAT ABOVE ROOM TEMP	MDSS-2/MDHP-2 CYCLE TO HEATING AND START		
	SET THE THERMOSTAT TO ROOM TEMP	MDSS-2/MDHP-2 SHALL STOP		

THIS UNIT HAS BEEN TESTED AND VERIFIED TO BE OPERATING PER DESIGN

Name: _____ Company: _____ Date: _____

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3.4.2 Performance Verification Test**ATFP SWITCH— C.L.E.O. FACILITY**

THE ANTI-TERRORISM FORCE PROTECTION SWITCH (ATFP) LOCATED IN THE MAIN LOBBY UPON ACTIVATION SHALL SHUTDOWN THE HVAC SYSTEM.

#	Test	Response	Comment	Pass/Fail
	ATFP SHUTDOWN:			
	DEPRESS THE ATFP SWITCH TO TRIGGER THE SHUTDOWN MODE	ERV AND HPs SHALL STOP AND ALL MOTORIZED DAMPERS SHALL CLOSE.		
	RESET THE ATFP SWITCH TO NORMAL	ERV AND HPs AND MOTORIZED DAMPERS SHALL RETURN TO NORMAL POSITION		

THIS UNIT HAS BEEN TESTED AND VERIFIED TO BE OPERATING PER DESIGN

Name: _____ Company: _____ Date: _____

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3.5.2 Performance Verification Test**HP-1 – VISITORS CENTER**

1. DURING THE OCCUPIED MODE THE HP-1 SHALL MAINTAIN A COOLING SETPOINT OF 75 DEG F AND A HEAT SETPOINTING OF 70 DEG F. UNIT SHALL CYCLE ON TO MAINTAIN THE OCCUPIED HEATING AND COOLING SETPOINT.

#	Test	Response	Comment	Pass/Fail
	HP-1 OCCUPIED HEATING MODE			
A	RAISE THE HEATING SETPOINT ABOVE THE CURRENT SPACE TEMP	THE OUTSIDE AIR DAMPER WILL OPEN AND THE HEATPUMP AND FAN WILL CYCLE ON ONCE THE SOLENOID VALVE OPENS AND FLOW IS ESTABLISHED. FLOW WILL BE VERIFIED BY CHECKING PRESSURE DROP THROUGH COIL OR AUTOFLOW VALVE. THE UNIT WILL THEN OPERATE ON INTERNAL CONTROLS TO MAINTAIN THE SETPOINT THE FAN STATUS WILL BE MONITORED ON THE BAS		
B	LOWER THE HEATING SETPOINT BELOW THE CURRENT SPACE TEMP	THE HEATPUMP WILL CYCLE OFF (FAN & COMPRESSOR)AND THE OUTSIDE AIR DAMPER SHALL CLOSE AND SOLENOID VALVE WILL CLOSE		
	HP-1 OCCUPIED COOLING MODE			
A	LOWER THE COOLING SETPOINT BELOW THE CURRENT SPACE TEMP	THE OUTSIDE AIR DAMPER WILL OPEN AND THE HEATPUMP AND FAN WILL CYCLE ON THE UNIT WILL THEN OPERATE ON INTERNAL CONTROLS TO MAINTAIN THE SETPOINT		
B	RAISE THE COOLING SETPOINT ABOVE THE CURRENT SPACE TEMP	THE HEATPUMP WILL CYCLE OFF (FAN & COMPRESSOR AND THE OUTSIDE AIR DAMPER SHALL CLOSE AND SOLENOID WILL CLOSE		

2. DURING THE UNOCCUPIED MODE THE HP-1 SHALL MAINTAIN A COOLING SETPOINT OF 85 DEG F AND A HEAT SETPOINTING OF 60 DEG F. UNIT SHALL CYCLE ON TO MAINTAIN THE UNOCCUPIED HEATING AND COOLING SETPOINT.

#	Test	Response	Comment	Pass/Fail
	HP-1 UNOCCUPIED MODE HEATING			
A	RAISE THE HEATING SETPOINT ABOVE THE CURRENT SPACE TEMP	THE OUTSIDE AIR DAMPER WILL REMAIN CLOSED. THE HEATPUMP WILL CYCLE ON. THE UNIT WILL THEN OPERATE ON INTERNAL CONTROLS TO MAINTAIN THE SETPOINT		
B	LOWER THE HEATING SETPOINT BELOW THE CURRENT SPACE TEMP	THE HEATPUMP WILL CYCLE OFF		
	HP-1 UNOCCUPIED MODE COOLING			
A	CHANGE THE COOLING SETPOINT BELOW THE CURRENT SPACE TEMP	THE HEAT PUMP WILL BE ON AND MAINTAIN SETPOINT		

3. ALARM SHALL BE SENT IF THE FOLLOWING CONDITIONS ARE MET:

b. DIRTY FILTER STATUS

NOTE: ADDITIONAL ALARMS ARE DISPLAYED AT THE UNIT BY LED'S INDICATING THE SPECIFIC FAILURE (i.e. HIGH PRESSURE, LOW PRESSURE, LOW WATER TEMPERATURE, LOW VOLTAGE, HIGH VOLTAGE, CONTROL VOLTAGE)

#	Test	Response	Comment	Pass/Fail
	HP ALARMS			
A	TRIP THE FILTER DIFFERENTIAL PRESSURE TO SIMULATE A DIRTY FILTER	AN ALARM SHALL BE GENERATED TO BAS		

b. LOW TEMPERATURE SWITCH CUT OUT:

#	Test	Response	Comment	Pass/Fail
	HP-1 HEATING MODE			
A	CUT OFF WATERFLOW	COMPRESSOR OPERATION WILL BE SHUT OFF BY LOW TEMPERATURE SWITCH AND AN ALARM GENERATED AT THE BCS AND ZONE SENSOR PANEL		

c. HIGH PRESSURE CUT OUT:

#	Test	Response	Comment	Pass/Fail
	HP-1 COOLING MODE			
A	LOWER TEMPERATURE SETTING BELOW SET POINT. CUT OFF WATER FLOW	COMPRESSOR WILL BE SHUT OFF BY HIGH PRESSURE CUT OUT AND AN ALARM GENERATED AT THE BCS AND ZONE SENSOR PANEL		

4. FAN OPERATION TO CYCLE ON OFF AS REQUIRED:

#	Test	Response	Comment	Pass/Fail
	HP-1 COOLING- OCCUPIED AND UNOCCUPIED			
A	LOWER SPACE THERMOSTAT BELOW SET POINT	FAN WILL CYCLE ON AND REPORT TO BAS.		
	HP-1 HEATING OCCUPIED AND UNOCCUPIED			
B	RAISE SPACE TEMPATURE ABOVE SET POINT	FAN WILL CYCLE ON. AND REPORT TO BAS.		

5. COMPRESSOR AND REVERSING VALVE CYCLING OPERATION TIME DELAY:

#	Test	Response	Comment	Pass/Fail
	HP-1 COOLING MODE			
A	RAISE SET POINT ABOVE WHAT IS REQUIRED TO BRING ON HEATING	COMPRESSOR WILL BE DELAYED BY APPROXIMATELY 5 MINUTES BEFORE RESTARTING TO ALLOW FOR REVERSING VALVE TO SWITCH TO HEATING		
	HP-1 HEATING MODE			
B	LOWER SET POINT SETTING BEYOND EXISTING SET POINT BELOW WHAT IS REQUIRED FOR COOLING	COMPRESSOR START WILL BE DELAYED FOR APPROXIMATELY 5 MINUTES TO ALLOW FOR REVERSING VALVE TO SWITCH TO COOLING		

6. CONFIRMING WALL MOUNTED SET POINT ADJUSTMENT:

#	Test	Response	Comment	Pass/Fail
	HEAT PUMP-OCCUPIED MODE- HEATING			
A	ADJUST SET POINT UP 2 DEGREES	UNIT TO CYCLE ON		
	HEAT PUMP-OCCUPIED MODE- COOLING			
B	ADJUST SET POINT 2 DEGREES LOWER	UNIT TO CYCLE ON		

7. CONFIRMING 2 HOUR OVERRIDE:

#	Test	Response	Comment	Pass/Fail
	HEAT PUMP-UNOCCUPIED MODE			
	ACTIVATE PUSH BUTTON OVERRIDE ON WALL MOUNTED SENSOR	UNIT TO OPERATE FOR 2 HRS UNDER ITS OWN CONTROLS THEN RETURN TO UNOCCUPIED		

8. **ZONE SENSOR:**

#	Test	Response	Comment	Pass/Fail
A	DISCONNECT THERMOSTAT	ZONE SENSOR FAILURE GENERATE AT BAS AND THE UNIT WILL BE SHUTDOWN		

THIS UNIT HAS BEEN TESTED AND VERIFIED TO BE OPERATING PER DESIGN

Name:_____ **Company:**_____ **Date:**_____

Performance Test Report

Section 23 09 23.13 22 SD-05

3.5.2 Performance Verification Test**HP-2 – VISITORS CENTER**

1. DURING THE OCCUPIED MODE THE HP-2 SHALL MAINTAIN A COOLING SETPOINT OF 75 DEG F AND A HEAT SETPOINTING OF 70 DEG F. UNIT SHALL CYCLE ON TO MAINTAIN THE OCCUPIED HEATING AND COOLING SETPOINT.

#	Test	Response	Comment	Pass/Fail
	HP-1 OCCUPIED HEATING MODE			
A	RAISE THE HEATING SETPOINT ABOVE THE CURRENT SPACE TEMP	THE HEATPUMP AND FAN WILL CYCLE ON ONCE THE SOLENOID VALVE OPENS AND FLOW IS ESTABLISHED. FLOW WILL BE VERIFIED BY CHECKING PRESSURE DROP THROUGH COIL OR AUTOFLOW VALVE. THE UNIT WILL THEN OPERATE ON INTERNAL CONTROLS TO MAINTAIN THE SETPOINT THE FAN STATUS WILL BE MONITORED ON THE BAS		
B	LOWER THE HEATING SETPOINT BELOW THE CURRENT SPACE TEMP	THE HEATPUMP WILL CYCLE OFF (FAN & COMPRESSOR) SHALL CLOSE AND SOLENOID VALVE WILL CLOSE		
	HP-1 OCCUPIED COOLING MODE			
A	LOWER THE COOLING SETPOINT BELOW THE CURRENT SPACE TEMP	THE UNIT WILL THEN OPERATE ON INTERNAL CONTROLS TO MAINTAIN THE SETPOINT		
B	RAISE THE COOLING SETPOINT ABOVE THE CURRENT SPACE TEMP	THE HEATPUMP WILL CYCLE OFF (FAN & COMPRESSOR AND SOLENOID WILL CLOSE		

2. DURING THE UNOCCUPIED MODE THE HP-1 SHALL MAINTAIN A COOLING SETPOINT OF 85 DEG F AND A HEAT SETPOINTING OF 60 DEG F. UNIT SHALL CYCLE ON TO MAINTAIN THE UNOCCUPIED HEATING AND COOLING SETPOINT.

#	Test	Response	Comment	Pass/Fail
	HP-1 UNOCCUPIED MODE HEATING			
A	RAISE THE HEATING SETPOINT ABOVE THE CURRENT SPACE TEMP	THE HEATPUMP WILL CYCLE ON. THE UNIT WILL THEN OPERATE ON INTERNAL CONTROLS TO MAINTAIN THE SETPOINT		
B	LOWER THE HEATING SETPOINT BELOW THE CURRENT SPACE TEMP	THE HEATPUMP WILL CYCLE OFF		
	HP-1 UNOCCUPIED MODE COOLING			

A	CHANGE THE COOLING SETPOINT BELOW THE CURRENT SPACE TEMP	THE HEAT PUMP WILL BE ON AND MAINTAIN SETPOINT		
----------	---	--	--	--

3. ALARM SHALL BE SENT IF THE FOLLOWING CONDITIONS ARE MET:

a. DIRTY FILTER STATUS

NOTE: ADDITIONAL ALARMS ARE DISPLAYED AT THE UNIT BY LED'S INDICATING THE SPECIFIC FAILURE (i.e. HIGH PRESSURE, LOW PRESSURE, LOW WATER TEMPERATURE, LOW VOLTAGE, HIGH VOLTAGE, CONTROL VOLTAGE)

#	Test	Response	Comment	Pass/Fail
	HP ALARMS			
A	TRIP THE FILTER DIFFERENTIAL PRESSURE TO SIMULATE A DIRTY FILTER	AN ALARM SHALL BE GENERATED TO BAS		

b. **LOW TEMPERATURE SWITCH CUT OUT:**

#	Test	Response	Comment	Pass/Fail
	HP-1 HEATING MODE			
A	CUT OFF WATERFLOW	COMPRESSOR OPERATION WILL BE SHUT OFF BY LOW TEMPERATURE SWITCH AND AN ALARM GENERATED AT THE BCS AND ZONE SENSOR PANEL		

c. **HIGH PRESSURE CUT OUT:**

#	Test	Response	Comment	Pass/Fail
	HP-1 COOLING MODE			
A	LOWER TEMPERATURE SETTING BELOW SET POINT. CUT OFF WATER FLOW	COMPRESSOR WILL BE SHUT OFF BY HIGH PRESSURE CUT OUT AND AN ALARM GENERATED AT THE BCS AND ZONE SENSOR PANEL		

4. FAN OPERATION TO CYCLE ON OFF AS REQUIRED:

#	Test	Response	Comment	Pass/Fail
	HP-1 COOLING- OCCUPIED AND UNOCCUPIED			
A	LOWER SPACE THERMOSTAT BELOW SET POINT	FAN WILL CYCLE ON AND REPORT TO BAS.		
	HP-1 HEATING OCCUPIED AND UNOCCUPIED			
B	RAISE SPACE TEMPERATURE ABOVE SET POINT	FAN WILL CYCLE ON. AND REPORT TO BAS.		

5. COMPRESSOR AND REVERSING VALVE CYCLING OPERATION TIME DELAY:

#	Test	Response	Comment	Pass/Fail
	HP-1 COOLING MODE			
A	RAISE SET POINT ABOVE WHAT IS REQUIRED TO BRING ON HEATING	COMPRESSOR WILL BE DELAYED BY APPROXIMATELY 5 MINUTES BEFORE RESTARTING TO ALLOW FOR REVERSING VALVE TO SWITCH TO HEATING		
	HP-1 HEATING MODE			
B	LOWER SET POINT SETTING BEYOND EXISTING SET POINT BELOW WHAT IS REQUIRED FOR COOLING	COMPRESSOR START WILL BE DELAYED FOR APPROXIMATELY 5 MINUTES TO ALLOW FOR REVERSING VALVE TO SWITCH TO COOLING		

6. CONFIRMING WALL MOUNTED SET POINT ADJUSTMENT:

#	Test	Response	Comment	Pass/Fail
	HEAT PUMP-OCCUPIED MODE-HEATING			
A	ADJUST SET POINT UP 2 DEGREES	UNIT TO CYCLE ON		
	HEAT PUMP-OCCUPIED MODE-COOLING			
B	ADJUST SET POINT 2 DEGREES LOWER	UNIT TO CYCLE ON		

7. CONFIRMING 2 HOUR OVERRIDE:

#	Test	Response	Comment	Pass/Fail
	HEAT PUMP-UNOCCUPIED MODE			
	ACTIVATE PUSH BUTTON OVERRIDE ON WALL MOUNTED SENSOR	UNIT TO OPERATE FOR 2 HRS UNDER ITS OWN CONTROLS THEN RETURN TO UNOCCUPIED		

8. ZONE SENSOR:

#	Test	Response	Comment	Pass/Fail
A	DISCONNECT THERMOSTAT	ZONE SENSOR FAILURE GENERATE AT BAS AND THE UNIT WILL BE SHUTDOWN		

THIS UNIT HAS BEEN TESTED AND VERIFIED TO BE OPERATING PER DESIGN

Name: _____ **Company:** _____ **Date:** _____

Performance Test Report

Section 23 09 23.13 20 SD-05

3.5.2 Performance Verification Test**EF-1 (FEMALE HEAD), EF-2 (MALE HEAD) & EF-3 (UNISEX),
– VISITORS CENTER**

1. THE FANS ARE CONTROLLED BY AN OCCUPANCY SENSOR.
2. UPON DETECTION THAT THE ROOM IS OCCUPIED THE EXHAUST FAN SHALL START AND THE BACKDRAFT DAMPER SHALL OPEN.

#	Test	Response	Comment	Pass
	EF-1 (FEMALE HEAD) CONTROL			
	ENTER THEN HEAD ROOM	FAN SHALL START		
	EXIST THE HEAD ROOM	AFTER 5 MIN. THE FAN SHALL STOP		
	EF-2 (MALE HEAD) CONTROL			
	ENTER THEN HEAD ROOM	FAN SHALL START		
	EXIST THE HEAD ROOM	AFTER 5 MIN. THE FAN SHALL STOP		
	EF-3 (UNISEX) CONTROL			
	ENTER THEN HEAD ROOM	FAN SHALL START		
	EXIST THE HEAD ROOM	AFTER 5 MIN. THE FAN SHALL STOP		

THIS UNIT HAS BEEN TESTED AND VERIFIED TO BE OPERATING PER DESIGN

Name: _____ Company: _____ Date: _____

Performance Test Report

Section 23 09 23.13 20 SD-05

3.5.2 Performance Verification Test**EF-4 (JANITOR) – VISITORS CENTER**

1. FAN SHALL RUN DURING OCCUPIED HOURS

#	Test	Response	Comment	Pass
	EF-4(JANITOR) CONTROL			
	PLACE THE DDC SYSTEM IN THE OCCUPIED MODE	FAN SHALL START		
	PLACE THE DDC SYSTEM IN THE UNOCCUPIED MODE	FAN SHALL STOP		

THIS UNIT HAS BEEN TESTED AND VERIFIED TO BE OPERATING PER DESIGN

Name: _____ Company: _____ Date: _____

Performance Test Report

Section 23 09 23.13 20 SD-05

3.5.2 Performance Verification Test**MDSS/MDCU – VISITORS CENTER**

1. OPERATE THE MDSS/MDCU FROM ITS OWN SELF CONTAINED CONTROLS.
2. WHEN MDSS/MDCU THERMOSTAT CALLS FOR AIR CONDITIONING, MDSS/MDCU WILL START AND MAINTAIN SPACE SETPOINT.
3. WHEN THE SPACE TEMP IS SATISFIED, MDSS/MDCU WILL STOP.

#	Test	Response	Comment	Pass
	MDSS/MDCU-1 CONTROL			
	LOWER THE THERMOSTAT BELOW THE CURRENT SPACE TEMP	MDSS/MDCU-1 SHALL START		
	RAISE THE THERMOSTAT ABOVE THE CURRENT SPACE TEMP	MDSS/MDCU-1 SHALL STOP		

THIS UNIT HAS BEEN TESTED AND VERIFIED TO BE OPERATING PER DESIGN

Name: _____ Company: _____ Date: _____

Performance Test Report

Section 23 09 23.13 20 SD-05

3.4.2 Performance Verification Test**ATFP SWITCH – VISITORS CENTER**

THE ANTI-TERRORISM FORCE PROTECTION SWITCH (ATFP) LOCATED IN THE MAIN LOBBY UPON ACTIVATION SHALL SHUTDOWN THE HVAC SYSTEM.

#	Test	Response	Comment	Pass/Fail
	ATFP SHUTDOWN:			
	DEPRESS THE ATFP SWITCH TO TRIGGER THE SHUTDOWN MODE	HPs SHALL STOP		
	RESET THE ATFP SWITCH TO NORMAL	HPs SHALL RETURN TO NORMAL OPERATION		

THIS UNIT HAS BEEN TESTED AND VERIFIED TO BE OPERATING PER DESIGN

Name: _____ Company: _____ Date: _____

Performance Test Report

Section 23 09 23.13 22 SD-05

3.5.2 Performance Verification Test**HP-3 – GATEHOUSE**

1. DURING THE OCCUPIED MODE THE HP-3 SHALL MAINTAIN A COOLING SETPOINT OF 75 DEG F AND A HEAT SETPOINTING OF 70 DEG F. UNIT SHALL CYCLE ON TO MAINTAIN THE OCCUPIED HEATING AND COOLING SETPOINT.

#	Test	Response	Comment	Pass/Fail
	HP-1 OCCUPIED HEATING MODE			
A	RAISE THE HEATING SETPOINT ABOVE THE CURRENT SPACE TEMP	THE HEATPUMP AND FAN WILL CYCLE ON ONCE THE SOLENOID VALVE OPENS AND FLOW IS ESTABLISHED. FLOW WILL BE VERIFIED BY CHECKING PRESSURE DROP THROUGH COIL OR AUTOFLOW VALVE. THE UNIT WILL THEN OPERATE ON INTERNAL CONTROLS TO MAINTAIN THE SETPOINT THE FAN STATUS WILL BE MONITORED ON THE BAS		
B	LOWER THE HEATING SETPOINT BELOW THE CURRENT SPACE TEMP	THE HEATPUMP WILL CYCLE OFF (FAN & COMPRESSOR) SHALL CLOSE AND SOLENOID VALVE WILL CLOSE		
	HP-1 OCCUPIED COOLING MODE			
A	LOWER THE COOLING SETPOINT BELOW THE CURRENT SPACE TEMP	THE UNIT WILL THEN OPERATE ON INTERNAL CONTROLS TO MAINTAIN THE SETPOINT		
B	RAISE THE COOLING SETPOINT ABOVE THE CURRENT SPACE TEMP	THE HEATPUMP WILL CYCLE OFF (FAN & COMPRESSOR AND SOLENOID WILL CLOSE		

2. DURING THE UNOCCUPIED MODE THE HP-1 SHALL MAINTAIN A COOLING SETPOINT OF 85 DEG F AND A HEAT SETPOINTING OF 60 DEG F. UNIT SHALL CYCLE ON TO MAINTAIN THE UNOCCUPIED HEATING AND COOLING SETPOINT.

#	Test	Response	Comment	Pass/Fail
	HP-1 UNOCCUPIED MODE HEATING			
A	RAISE THE HEATING SETPOINT ABOVE THE CURRENT SPACE TEMP	THE HEATPUMP WILL CYCLE ON. THE UNIT WILL THEN OPERATE ON INTERNAL CONTROLS TO MAINTAIN THE SETPOINT		
B	LOWER THE HEATING SETPOINT BELOW THE CURRENT SPACE TEMP	THE HEATPUMP WILL CYCLE OFF		

	HP-1 UNOCCUPIED MODE COOLING			
A	CHANGE THE COOLING SETPOINT BELOW THE CURRENT SPACE TEMP	THE HEAT PUMP WILL BE ON AND MAINTAIN SETPOINT		

3. ALARM SHALL BE SENT IF THE FOLLOWING CONDITIONS ARE MET:

a. DIRTY FILTER STATUS

NOTE: ADDITIONAL ALARMS ARE DISPLAYED AT THE UNIT BY LED'S INDICATING THE SPECIFIC FAILURE (i.e. HIGH PRESSURE, LOW PRESSURE, LOW WATER TEMPERATURE, LOW VOLTAGE, HIGH VOLTAGE, CONTROL VOLTAGE)

#	Test	Response	Comment	Pass/Fail
	HP ALARMS			
A	TRIP THE FILTER DIFFERENTIAL PRESSURE TO SIMULATE A DIRTY FILTER	AN ALARM SHALL BE GENERATED TO BAS		

b. LOW TEMPERATURE SWITCH CUT OUT:

#	Test	Response	Comment	Pass/Fail
	HP-1 HEATING MODE			
A	CUT OFF WATERFLOW	COMPRESSOR OPERATION WILL BE SHUT OFF BY LOW TEMPERATURE SWITCH AND AN ALARM GENERATED AT THE BCS AND ZONE SENSOR PANEL		

c. HIGH PRESSURE CUT OUT:

#	Test	Response	Comment	Pass/Fail
	HP-1 COOLING MODE			
A	LOWER TEMPERATURE SETTING BELOW SET POINT. CUT OFF WATER FLOW	COMPRESSOR WILL BE SHUT OFF BY HIGH PRESSURE CUT OUT AND AN ALARM GENERATED AT THE BCS AND ZONE SENSOR PANEL		

4. FAN OPERATION TO CYCLE ON OFF AS REQUIRED:

#	Test	Response	Comment	Pass/Fail
	HP-1 COOLING- OCCUPIED AND UNOCCUPIED			
A	LOWER SPACE THERMOSTAT BELOW SET POINT	FAN WILL CYCLE ON AND REPORT TO BAS.		
	HP-1 HEATING OCCUPIED AND UNOCCUPIED			
B	RAISE SPACE TEMPATURE ABOVE SET POINT	FAN WILL CYCLE ON. AND REPORT TO BAS.		

5. COMPRESSOR AND REVERSING VALVE CYCLING OPERATION TIME DELAY:

#	Test	Response	Comment	Pass/Fail
	HP-1 COOLING MODE			
A	RAISE SET POINT ABOVE WHAT IS REQUIRED TO BRING ON HEATING	COMPRESSOR WILL BE DELAYED BY APPROXIMATELY 5 MINUTES BEFORE RESTARTING TO ALLOW FOR REVERSING VALVE TO SWITCH TO HEATING		
	HP-1 HEATING MODE			
B	LOWER SET POINT SETTING BEYOND EXISTING SET POINT BELOW WHAT IS REQUIRED FOR COOLING	COMPRESSOR START WILL BE DELAYED FOR APPROXIMATELY 5 MINUTES TO ALLOW FOR REVERSING VALVE TO SWITCH TO COOLING		

6. CONFIRMING WALL MOUNTED SET POINT ADJUSTMENT:

#	Test	Response	Comment	Pass/Fail
	HEAT PUMP-OCCUPIED MODE-HEATING			
A	ADJUST SET POINT UP 2 DEGREES	UNIT TO CYCLE ON		
	HEAT PUMP-OCCUPIED MODE-COOLING			
B	ADJUST SET POINT 2 DEGREES LOWER	UNIT TO CYCLE ON		

7. CONFIRMING 2 HOUR OVERRIDE:

#	Test	Response	Comment	Pass/Fail
	HEAT PUMP-UNOCCUPIED MODE			
	ACTIVATE PUSH BUTTON OVERRIDE ON WALL MOUNTED SENSOR	UNIT TO OPERATE FOR 2 HRS UNDER ITS OWN CONTROLS THEN RETURN TO UNOCCUPIED		

8. ZONE SENSOR:

#	Test	Response	Comment	Pass/Fail
A	DISCONNECT THERMOSTAT	ZONE SENSOR FAILURE GENERATE AT BAS AND THE UNIT WILL BE SHUTDOWN		

THIS UNIT HAS BEEN TESTED AND VERIFIED TO BE OPERATING PER DESIGN

Name: _____ Company: _____ Date: _____

Performance Test Report

Section 23 09 23.13 20 SD-05

3.5.2 Performance Verification Test**EF-5 HEAD – GATEHOUSE**

1. THE FANS ARE CONTROLLED BY AN OCCUPNACY SENSOR.
2. UPON DETECTION THAT THE ROOM IS OCCUPIED THE EXHAUST FAN SHALL START AND THE BACKDRAFT DAMPER SHALL OPEN.

#	Test	Response	Comment	Pass
	EF-5 (HEAD) CONTROL			
	ENTER THEN HEAD ROOM	FAN SHALL START		
	EXIST THE HEAD ROOM	AFTER 5 MIN. THE FAN SHALL STOP		

THIS UNIT HAS BEEN TESTED AND VERIFIED TO BE OPERATING PER DESIGN

Name: _____ Company: _____ Date: _____

Performance Test Report

Section 23 09 23.13 20 SD-05

3.5.2 Performance Verification Test**MDSS/MDCU-2 – GATEHOUSE**

4. OPERATE THE MDSS/MDCU FROM ITS OWN SELF CONTAINED CONTROLS.
5. WHEN MDSS/MDCU THERMOSTAT CALLS FOR AIR CONDITIONING, MDSS/MDCU WILL START AND MAINTAIN SPACE SETPOINT.
6. WHEN THE SPACE TEMP IS SATISFIED, MDSS/MDCU WILL STOP.

#	Test	Response	Comment	Pass
	MDSS/MDCU-2 CONTROL			
	LOWER THE THERMOSTAT BELOW THE CURRENT SPACE TEMP	MDSS/MDCU-2 SHALL START		
	RAISE THE THERMOSTAT ABOVE THE CURRENT SPACE TEMP	MDSS/MDCU-2 SHALL STOP		

THIS UNIT HAS BEEN TESTED AND VERIFIED TO BE OPERATING PER DESIGN

Name: _____ Company: _____ Date: _____

Performance Test Report

Section 23 09 23.13 20 SD-05

3.4.2 Performance Verification Test**ATFP SWITCH – GATEHOUSE**

THE ANTI-TERRORISM FORCE PROTECTION SWITCH (ATFP) LOCATED IN THE MAIN LOBBY UPON ACTIVATION SHALL SHUTDOWN THE HVAC SYSTEM.

#	Test	Response	Comment	Pass/Fail
	ATFP SHUTDOWN:			
	DEPRESS THE ATFP SWITCH TO TRIGGER THE SHUTDOWN MODE	HPs SHALL STOP		
	RESET THE ATFP SWITCH TO NORMAL	HPs SHALL RETURN TO NORMAL OPERATION		

THIS UNIT HAS BEEN TESTED AND VERIFIED TO BE OPERATING PER DESIGN

Name:_____ **Company:**_____ **Date:**_____

P-1383/P-1384 NEW BASE ENTRY POINT & ROAD
CONTRACT N40085-12-C-7714
MCB CAMP LEJEUNE, NORTH CAROLINA
NAVFAC MIDLANT CODE CI52 (PAG)

Title **Performance Verification Test (PVT) Plan Submittal Number 03 Review**

Disposition – Disapproved/Resubmit (D/R)

1. Disapproved / Resubmit (D/R) disposition indicates responses to unclosed issues are necessary at this time and a resubmission is necessary upon closure of all issues.

Action Item Abbreviations

1. Action item abbreviations presented below identify party responsible for resolving issue.

AG = NAVFAC Acceptance Group	ES = Equipment Supplier
CC = Controls Contractor	FA = Fire Alarm Contractor
CM = NAVFAC Construction Manager	GC = General Contractor
CxA = Commissioning Authority	MC = Mechanical Contractor
DOR = Designer of Record	TAB = Test and Balance Contractor
EC = Electrical Contractor	

For Informational Purposes Only = No responsible party, no action required

Introduction

1. These issues are based on comparing the performance verification test (PVT) plan submittal number three dated 30 May 2016 with transmittal dated 07 Jun 2016 and received by the acceptance group on 07 Jun 2016 to contract document requirements.
2. Issues are organized into the following sections:
 - [General](#)
 - [C.L.E.O.](#)
 - [Visitors' Center](#)
 - [Gatehouse](#)
3. Unless indicated as an issue for action, issues are for informational purposes only.
4. Approval or acceptance does not relieve contractor of responsibility for any error in accordance with specification 01 33 00.
5. It is the contractor quality control manager's responsibility to ensure responses are obtained from all applicable responsible parties as indicated and are substantive.
6. The following references serve as the basis of these comments due to the contract award date of 03 Apr 2012:
 - Unified facilities criteria [UFC 3-400-10N - Mechanical Engineering](#) dated Mar 2012
 - Unified facilities criteria [UFC 4-010-01 - DoD Minimum Antiterrorism Standards for Buildings](#) dated Feb 2012
 - American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE) Fundamentals dated 2009
 - ASHRAE 62.1 Ventilation for Acceptable Indoor Air Quality dated 2010
 - ASHRAE 90.1 Energy Standard for Buildings Except Low-Rise Residential Buildings dated 2010

General Issues

1. Submittal excludes contractor's quality control specialist's approval which conflicts with specification 01 33 00.05 20 page 4, section 1.4.1. Previous submission issue's resolution to include QC Manager's approval certification was not incorporated. Appropriate approval is necessary to close this issue. – **Action Item for GC**
dd Mmm yyyyXXX Response:
☐ This is not an issue requiring resolution based on basis description.
☐ This is an issue of concern and has been / shall be resolved by resolution description.
2. Submittal excludes Response items for each component impacted by a specific test method in some instances which conflicts with specification 23 09 23.13 22 page 36, section 3.5.2 requirement to provide such detail. For example, fan failure test of the C.L.E.O. ERV-1 should indicate fan command ON, fan status OFF, and closure of the associated damper(s) in addition to the noted generation of an alarm. Although the format shown is not required, the level of detail below is anticipated to confirm component responses and interactions during each test.

Step	Test Method	Expected System Response
1	Place all associated vav's in the unoccupied mode.	The supply and return fan will be stopped.
2		Ra damper will be open, oa and relief dampers will be closed.
3		Both chill water and preheat valves will be closed.
4	Place 3 zones above the unoccupied clg stpt of 28°C (80°F)	The supply and return fan will be enabled.
5		The return damper will remain 100% open.
6		The oa and relief dampers will remain 100% closed.
7		Verify the chill water and preheat valves modulate to maintain setpoint as necessary.
8	Release the 3 zones to normal.	The AHU will be disabled.

Descriptive information addressing the discrepancy is necessary to close this issue.

– **Action Item for CC**

28 Jun2016CC Response:

- ☐ This is not an issue requiring resolution based on previous PVT plans not requiring this format.
- ☒ This is an issue of concern and has been / shall be resolved by resolution description.

C.L.E.O. Issues

Geothermal Water System

3. Submittal includes Pump-1 running continuously which conflicts with the latest Sequence of Operation (SOO) direction, per PCO 77, to run the pump only during a call for heating or cooling. Appropriate test method based on the latest SOO shall be incorporated within the PVT Plan in accordance with the as-installed conditions. Descriptive information addressing the discrepancy is necessary to close this issue. – **Action Item for CC**

28 Jun2016CC Response:

- ☐ This is not an issue requiring resolution based on basis description.
- ☒ This is an issue of concern and has been / shall be resolved by amending the PVT and field programming.

4. Submittal includes GWS Pump Control SOO which conflicts with the latest Sequence of Operation (SOO) direction, per PCO 77. Descriptive information addressing the discrepancy is necessary to close this issue. – **Action Item for CC**
28 Jun 2016CC Response:

- ☒ This is not an issue requiring resolution based on basis description.
☒ This is an issue of concern and has been / shall be resolved by amending the PVT--
PLEASE NOTE THAT THE ALARM PVT'S HAVE BEEN REVISED.

Heat Pump Water Heater

5. Submittal includes HPWH-1 Water Heater System note 1 regarding system continuously enabled which conflicts with Drawing WP602 Water Temperature Controls Sequence of Operation (SOO). Descriptive information addressing the discrepancy is necessary to close this issue. – **Action Item for CC**

28 Jun 2016CC Response:

- ☐ This is not an issue requiring resolution based on basis description.
☒ This is an issue of concern and has been / shall be resolved by amending the PVT and field programming.

ERV-1

6. Submittal includes Exhaust Fan operation when the Supply Fan fails which conflicts with the anticipated shutdown of the operational fan coinciding with the other fan failure. Operation of the ERV without either fan causes an imbalance in building pressurization. Descriptive information addressing the discrepancy is necessary to close this issue. – **Action Item for CC**

28 Jun 2016CC Response:

- ☐ This is not an issue requiring resolution based on basis description.
☒ This is an issue of concern and has been / shall be resolved by amending the PVT and field programming.

7. Submittal includes Supply Fan operation when the Exhaust Fan fails which conflicts with the anticipated shutdown of the operational fan coinciding with the other fan failure. Operation of the ERV without either fan causes an imbalance in building pressurization. Descriptive information addressing the discrepancy is necessary to close this issue. – **Action Item for CC**

28 Jun 2016CC Response:

- ☐ This is not an issue requiring resolution based on basis description.
☒ This is an issue of concern and has been / shall be resolved by amending the PVT and field programming.

8. Submittal includes Supply and Exhaust Fan operation when the Energy Wheel fails which conflicts with the anticipated shutdown of the fans coinciding with the wheel failure. Operation of the ERV without the energy wheel is unnecessary energy use unless there is an installed economizer option not indicated on the ERV-1 submittal product data. Descriptive information addressing the discrepancy is necessary to close this issue. – **Action Item for CC**

28 Jun 2016CC Response:

- ☐ This is not an issue requiring resolution based on basis description.
☒ This is an issue of concern and has been / shall be resolved by amending the PVT and field programming---THE WHOLE UNIT IS NOT DISABLED IN ORDER TO KEEP SUPPLYING NEEDED OUTSIDE AIR TO THE INDIVIDUAL HEAT PUMPS..

HP-1 thru HP-4

9. Submittal includes Unoccupied Mode Test #2 notation on maintaining Occupied setpoints which conflicts with testing Unoccupied Mode. Descriptive information addressing the discrepancy is necessary to close this issue. – **Action Item for CC**

30 06 2016 XXX Response:

- ☐ This is not an issue requiring resolution based on basis description.
☒ This is an issue of concern and has been / shall be resolved by resolution description.

10. Submittal includes Unoccupied Mode test methods without confirming unit responds to maintain Unoccupied setpoints which conflicts with Drawing WM603HP SOO. Descriptive information addressing the discrepancy is necessary to close this issue. – **Action Item for CC**

dd Mmm yyyyXXX Response:

- ☐ This is not an issue requiring resolution based on basis description.
☒ This is an issue of concern and has been / shall be resolved by resolution description.

11. Submittal includes test methods for individual components which conflicts with performing the same sequence within other tests. A separate test for reversing valve operation seems redundant to receiving conformation the valve operates during heating and/or cooling modes tests, unless the valve would operate outside of those modes. As noted in issue #2, individual component operation should be listed and performance confirmed in each system test to eliminate this redundancy. Descriptive information addressing the discrepancy is necessary to close this issue. – **Action Item for CC**

30 06 2016XXX Response:

- ☐ This is not an issue requiring resolution based on basis description.
☒ This is an issue of concern and has been / shall be resolved by resolution description.

12. Submittal excludes individual test methods for generating an alarm with unit faults (through any one of the failure modes noted for Test #3). This test method is intended to confirm generation of an alarm at the DDC System when the unit goes into alarm for any of a number of internal alarm points. Confirmation of this alarm has been selected by initiating a dirty filter alarm.

13. Submittal includes test responsegenerating an alarm with Zone Sensor failurewhich conflicts with Drawing WM603 HP SOO also indicating to shutdown the associated HP. Descriptive information addressing the discrepancy is necessary to close this issue. – **Action Item for CC**

30 06 2016XXX Response:

- ☐ This is not an issue requiring resolution based on basis description.
☒ This is an issue of concern and has been / shall be resolved by resolution description .

EF-1 thru EF-3

14. No comments warranted.

MDSS/MDCU

15. No comments warranted.

AT/FP Switch

16. Submittal excludes test response for exhaust fans EF-1 and EF-2 and their respective exhaust dampers which conflicts with Exhaust Fan Test #3 and Drawing WM603 Emergency Shutdown SOO to de-energize all units. Descriptive information addressing the discrepancy is necessary to close this issue. – **Action Item for CC**

30 Jun 2016 CC Response:

- ☐ This is not an issue requiring resolution based on basis description.
☒ This is an issue of concern and has been / shall be resolved by EFs not shown to be on DDC system in the control plans--
SHEET WM604 DOES NOT INDICATE DDC SYSTEM INTERFACES WITH EF1 & EF2.

Visitors' Center Issues

HP-1 and HP-2

17. Submittal includes Unoccupied Mode Test #2 notation on maintaining Occupied setpoints which conflicts with testing Unoccupied Mode. Descriptive information addressing the discrepancy is necessary to close this issue. – **Action Item for CC**

06 30 2016 XXX Response:

- ☐ This is not an issue requiring resolution based on basis description.
☒ This is an issue of concern and has been / shall be resolved by resolution description.

18. Submittal includes Unoccupied Mode test methods without confirming unit responds to maintain Unoccupied setpoints which conflicts with Drawing MH602 HP SOO. Descriptive information addressing the discrepancy is necessary to close this issue. – **Action Item for CC**

06 30 2016 XXX Response:

- ☐ This is not an issue requiring resolution based on basis description.
☒ This is an issue of concern and has been / shall be resolved by resolution description.

19. Submittal includes test methods for individual components which conflicts with performing the same sequence within other tests. A separate test for reversing valve operation seems redundant to receiving conformation the valve operates during heating and/or cooling modes tests, unless the valve would operate outside of those modes. As noted in issue #2, individual component operation should be listed and performance confirmed in each system test to eliminate this redundancy. Descriptive information addressing the discrepancy is necessary to close this issue. – **Action Item for CC**

06 30 2016 XXX Response:

- ☐ This is not an issue requiring resolution based on basis description.
☒ This is an issue of concern and has been / shall be resolved by resolution description.

20. Submittal excludes individual test methods for generating an alarm with unit faults (through any one of the failure modes noted for Test #3). This test method is intended to confirm generation of an alarm at the DDC System when the unit goes into alarm for any of a number of internal alarm points. Confirmation of this alarm has been selected by initiating a dirty filter alarm.

21. Submittal includes test response generating an alarm with Zone Sensor failure which conflicts with Drawing MH602 HP SOO also indicating to shutdown the associated HP. Descriptive information addressing the discrepancy is necessary to close this issue. – **Action Item for CC**
06 30 2016 XXX Response:

- ☐ This is not an issue requiring resolution based on basis description.
☒ This is an issue of concern and has been / shall be resolved by resolution description.

EF-1 thru EF-4

22. No comments warranted.

MDSS/MDCU

23. No comments warranted.

AT/FP Switch

24. Submittal excludes test response for exhaust fans EF-1 thru EF-4 and their respective exhaust dampers which conflicts with Exhaust Fan Test #3 and Drawing MH602 Emergency Shutdown SOO to de-energize all units. Descriptive information addressing the discrepancy is necessary to close this issue. – **Action Item for CC**

28 Jun 2016 CC Response:

- ☐ This is not an issue requiring resolution based on basis description.
☒ This is an issue of concern and has been / shall be resolved by the the EFs not shown to be part of the DDC system in the control plans-----

SHEET MH602 DOES NOT INDICATE THAT THE EF'S ARE CONTROLLED BY DDC SYSTEM. .

Gatehouse Issues

HP-1

25. Submittal includes Unoccupied Mode Test #2 notation on maintaining Occupied setpoints which conflicts with testing Unoccupied Mode. Descriptive information addressing the discrepancy is necessary to close this issue. – **Action Item for CC**

06 30 2016 XXX Response:

- ☐ This is not an issue requiring resolution based on basis description.
☒ This is an issue of concern and has been / shall be resolved by resolution description.

26. Submittal includes Unoccupied Mode test methods without confirming unit responds to maintain Unoccupied setpoints which conflicts with Drawing MH602 HP SOO. Descriptive information addressing the discrepancy is necessary to close this issue. – **Action Item for CC**

06 30 2016 XXX Response:

- ☐ This is not an issue requiring resolution based on basis description.
☒ This is an issue of concern and has been / shall be resolved by resolution description.

27. Submittal includes test methods for individual components which conflicts with performing the same sequence within other tests. A separate test for reversing valve operation seems redundant to receiving conformation the valve operates during heating and/or cooling modes tests, unless the valve would operate outside of those modes. As noted in issue #2, individual component operation should be listed and performance confirmed in each system test to eliminate this redundancy. Descriptive information addressing the discrepancy is necessary to close this issue. – **Action Item for CC**

06 30 2016 XXX Response:

- ☐ This is not an issue requiring resolution based on basis description.
☒ This is an issue of concern and has been / shall be resolved by resolution description.

28. Submittal excludes individual test methods for generating an alarm with unit faults (through any one of the failure modes noted for Test #3). This test method is intended to confirm generation of an alarm at the DDC System when the unit goes into alarm for any of a number of internal alarm points. Confirmation of this alarm has been selected by initiating a dirty filter alarm.
29. Submittal includes test response generating an alarm with Zone Sensor failure which conflicts with Drawing MH602 HP SOO also indicating to shutdown the associated HP. Descriptive information addressing the discrepancy is necessary to close this issue. – **Action Item for CC**
06 30 2016 XXX Response:
- ☐ This is not an issue requiring resolution based on basis description.
 - ☒ This is an issue of concern and has been / shall be resolved by resolution description.

EF-5

30. No comments warranted.

MDSS/MDCU

31. No comments warranted.

AT/FP Switch

32. Submittal excludes test response for exhaust fan EF-5 and the exhaust damper which conflicts with Exhaust Fan Test #3 and Drawing MH602 Emergency Shutdown SOO to de-energize all units. Descriptive information addressing the discrepancy is necessary to close this issue.
– **Action Item for CC**
28 Jun 2016 CC Response:
- ☐ This is not an issue requiring resolution based on basis description.
 - ☒ This is an issue of concern and has been / shall be resolved by the the EFs not shown to be part of the DDC system in the control plans--SHEET MH602 DOES NOT INDICATE THE DDC SYSTEM CONTROLLING THE EF'S- .

From: (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune
To: (b)(6) (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune; (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune; (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune
Cc: (b)(6); (b)(6); (b)(6) (PM, Group III Management)
Subject: RE: TRANSMITTAL 1262, SPEC 27 10 00, TELECOMMUNICATIONS CABLING SYSTEM, SD-03, OUTDOOR RATED CAT-6 CABLE
Date: Tuesday, June 07, 2016 6:52:59
Attachments: [trans1262.pdf](#)

Approved - see attached.

(b)(6), PE
Supervisory Construction Manager
ROICC, Camp Lejeune, NC
(b)(6)

-----Original Message-----

From: (b)(6) [[mailto:\(b\)\(6\)](#)]
Sent: Thursday, June 02, 2016 12:36 PM
To: (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune; (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune; (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune; (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune
Cc: (b)(6) (PM, Group III Management)
Subject: [Non-DoD Source] TRANSMITTAL 1262, SPEC 27 10 00, TELECOMMUNICATIONS CABLING SYSTEM, SD-03, OUTDOOR RATED CAT-6 CABLE

Good morning (b)(6). Attached is product data for the outdoor-rated telecomm cable for the CLEO building. (b)(6) has already stated this product is acceptable. Hard copies of this transmittal are enroute to your office. Thanks. R/ (b)(6)

(b)(6) | Deputy Project Manager & Small Business Liaison | cid:image001.png@01CCA871.8C8E7960 |

From: (b)(6)
Sent: Thursday, June 02, 2016 10:25 AM
To: (b)(6) (NAVFAC Contract Spec); (b)(6) (b)(6); (b)(6)
(b)(6)
Cc: (b)(6) (Dragados Senior Vice President); (b)(6) (Dragados QC Specialist); (b)(6) (PM, Group III Management)
Subject: FW: INDOOR/OUTDOOR CAT-6 CABLE

Good morning. Below is Base Telephone's approval of an outdoor-rated CAT-6 cable we intend on using at the CLEO building. My QC Manager will submit this product data sheet today but with (b)(6) prior approval of the material I am authorizing my sub to install it tomorrow (3Jun). Thanks. R/ (b)(6)

(b)(6) | Deputy Project Manager & Small Business Liaison | |

-----Original Message-----

From: (b)(6) [mailto:(b)(6)]

Sent: Thursday, June 02, 2016 10:02 AM

To: (b)(6)

Cc: (b)(6) (b)(6)

(b)(6)

Subject: RE: INDOOR/OUTDOOR CAT-6 CABLE

The attached product data sheet is acceptable to Base Telephone for the conduit running through the slab at the CLEO building, but only the ROICC can approve.

I can only advise and recommend but have no approval authority, please contact the CM or ET for proper submittal procedures on the attached ...

(b)(6)

Lead Investigator / Inspector / IT Project Manager

Base Telephone Building 25

(b)(6)

-----Original Message-----

From: (b)(6) [mailto:(b)(6)] <mailto:(b)(6)>]

Sent: Thursday, June 02, 2016 9:47 AM

To: (b)(6)

Cc: (b)(6) <mailto:(b)(6)> : (b)(6) (PM, Group III Management)

Subject: [Non-DoD Source] INDOOR/OUTDOOR CAT-6 CABLE

Good afternoon (b)(6) Would you please review that attached product data sheet and advise if this is acceptable for the conduit running through the slab at the CLEO building? Thanks. R (b)(6)

David Kramer | Deputy Project Manager & Small Business Liaison | |

311 Parachute Tower Road | Camp Lejeune, NC 28542 |

Phone: w (b)(6) | Email: (b)(6)
<[\(b\)\(6\)](mailto:(b)(6))>

Dragados USA, Inc. is An Equal Opportunity Employer

CONTRACTOR'S SUBMITTAL TRANSMITTAL

LANTDIV NORFOLK 4-43553 (Rev. 11-80)

FROM CONTRACTOR

Dragados USA - (b)(6)

TO
(b)(6)

Supervisory Construction Mgr

CONTRACT NO.

N40085-12-C-7714

TRANSMITTAL NO.

06022016 1262

DATE

6/2/2016

PROJECT TITLE AND LOCATION

P1383 & P1384 - New Base Entry Point and Road at MCB Camp Lejeune

CONTRACTOR USE ONLY

*List only one specification division per form

List only one of the following categories on each transmittal form.
and indicate which is being submitted☐ Contractor Approved☒ OICC Approval☐ Deviation/Substitution
For OICC Approval

REVIEWER USE ONLY

** ACTION CODES

A-Approved

D-Disapproved

AN-Approved as noted

RA-Receipt acknowledged

C-Comments

R-Resubmit

ITEM NO	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO.	ITEM IDENTIFICATION (Type, size, model no., Mfg name, dwg. or brochure number)	NO. OF COPIES	ACTION CODES ***	REVIEWER'S INITIALS CODE AND DATE
1	27 10 00	Building Telecommunications Cabling System	3	A	6/7/16 KMR
		VISITOR'S CENTER			
		SD-03 Product Data - Telecommunications Cabling			
	para 2.3.1.	COMTRAN indoor/outdoor CAT-6 cable: 23AWG, polyethylene insulation			

CONTRACTOR'S COMMENTS

This material is for the under-slab conduit at the CLEO site. Thanks. R/

2016 JUN -2 PM 1:

OICC MCI EAST
CAMP LEJEUNE, NC

(b)(6)

CONTRACTOR

DATE RECEIVED BY REVIEWER

FROM (Reviewer)

☐ Submittals are returned with action indicated. Approval of an item does not include approval of any deviation from the contract requirements unless the contractor calls attention to and supports the deviation.☐ Submittals are forwarded to LANTDIV with A-E recommendations indicated in REVIEWER USE ONLY Section and in comments below on ONE COPY of the transmittal form.

REVIEWER'S COMMENTS

COPIES TO:

OICC (2)
LANTDIV (1)
A-E (1)

DATE

6/7/16

SIGNATURE

(b)(6)

From: (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune
To: (b)(6); (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune; (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune; (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune
Cc: (b)(6); (b)(6) (PM, Group III Management)
Subject: RE: TRANSMITTAL 1262, SPEC 27 10 00, TELECOMMUNICATIONS CABLING SYSTEM, SD-03, OUTDOOR RATED CAT-6 CABLE
Date: Tuesday, June 07, 2016 6:52:59
Attachments: [trans1262.pdf](#)

Approved - see attached.

(b)(6), PE
Supervisory Construction Manager
ROICC, Camp Lejeune, NC
(b)(6)

-----Original Message-----

From: (b)(6) [[mailto:\(b\)\(6\)](#)]
Sent: Thursday, June 02, 2016 12:36 PM
To: (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune; (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune; (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune; (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune
Cc: (b)(6) (PM, Group III Management)
Subject: [Non-DoD Source] TRANSMITTAL 1262, SPEC 27 10 00, TELECOMMUNICATIONS CABLING SYSTEM, SD-03, OUTDOOR RATED CAT-6 CABLE

Good morning (b)(6). Attached is product data for the outdoor-rated telecomm cable for the CLEO building. (b)(6) has already stated this product is acceptable. Hard copies of this transmittal are enroute to your office. Thanks. R/ (b)(6)

(b)(6) | Deputy Project Manager & Small Business Liaison | cid:image001.png@01CCA871.8C8E7960 |

From: (b)(6)
Sent: Thursday, June 02, 2016 10:25 AM
To: (b)(6) (NAVFAC Contract Spec); (b)(6) (b)(6); (b)(6)
Cc: (b)(6) (Dragados Senior Vice President); (b)(6) (Dragados QC Specialist); (b)(6) (PM, Group III Management)
Subject: FW: INDOOR/OUTDOOR CAT-6 CABLE

Good morning. Below is Base Telephone's approval of an outdoor-rated CAT-6 cable we intend on using at the CLEO building. My QC Manager will submit this product data sheet today but with (b)(6) prior approval of the material I am authorizing my sub to install it tomorrow (3Jun). Thanks. R/ (b)(6)

(b)(6) | Deputy Project Manager & Small Business Liaison | |

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From: (b)(6) [mailto:(b)(6)]

Sent: Thursday, June 02, 2016 10:02 AM

To: (b)(6)

Cc: (b)(6)

(b)(6)

Subject: RE: INDOOR/OUTDOOR CAT-6 CABLE

The attached product data sheet is acceptable to Base Telephone for the conduit running through the slab at the CLEO building, but only the ROICC can approve.

I can only advise and recommend but have no approval authority, please contact the CM or ET for proper submittal procedures on the attached ...

(b)(6)

Lead Investigator / Inspector / IT Project Manager

Base Telephone Building 25

(b)(6)

-----Original Message-----

From: (b)(6) [mailto:(b)(6)] <mailto:(b)(6)>]

Sent: Thursday, June 02, 2016 9:47 AM

To: (b)(6)

Cc: (b)(6) <mailto:(b)(6)> ; Erik Barrow (PM, Group III Management)

Subject: [Non-DoD Source] INDOOR/OUTDOOR CAT-6 CABLE

Good afternoon (b)(6). Would you please review that attached product data sheet and advise if this is acceptable for the conduit running through the slab at the CLEO building? Thanks. R (b)(6)

(b)(6) | Deputy Project Manager & Small Business Liaison | |

311 Parachute Tower Road | Camp Lejeune, NC 28542 |

Phone: w (b)(6)

<[mailto:\(b\)\(6\)](#)>

Dragados USA, Inc. is An Equal Opportunity Employer

CONTRACTOR'S SUBMITTAL TRANSMITTAL

LANTDIV NORFOLK 4-43553 (Rev. 11-80)

FROM CONTRACTOR

Dragados USA - (b)(6)

TO (b)(6)

Supervisory Construction Mgr

CONTRACT NO.

N40085-12-C-7714

TRANSMITTAL NO.

06022016 1262

DATE

6/2/2016

PROJECT TITLE AND LOCATION

P1383 & P1384 - New Base Entry Point and Road at MCB Camp Lejeune

CONTRACTOR USE ONLY

*List only one specification division per form

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and indicate which is being submitted☐ Contractor Approved☒ OICC Approval☐ Deviation/Substitution
For OICC Approval

REVIEWER USE ONLY

** ACTION CODES

A-Approved

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AN-Approved as noted

RA-Receipt acknowledged

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R-Resubmit

ITEM NO	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO.	ITEM IDENTIFICATION (Type, size, model no., Mfg name, dwg. or brochure number)	NO. OF COPIES	ACTION CODES ***	REVIEWER'S INITIALS CODE AND DATE
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		VISITOR'S CENTER			
		SD-03 Product Data - Telecommunications Cabling			
	para 2.3.1.	COMTRAN indoor/outdoor CAT-6 cable: 23AWG, polyethylene insulation			

CONTRACTOR'S COMMENTS

This material is for the under-slab conduit at the CLEO site. Thanks. R/

2016 JUN -2 PM 1:

OICC MCI EAST
CAMP LEJEUNE, NC

(b)(6)

CONTRACTOR

DATE RECEIVED BY REVIEWER

FROM (Reviewer)

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REVIEWER'S COMMENTS

COPIES TO:

OICC (2)
LANTDIV (1)
A-E (1)

DATE

6/7/16

SIGNATURE

(b)(6)

From: (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune
To: (b)(6); (b)(6); (b)(6)
Cc: (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune; (b)(6) (PM, Group III Management); (b)(6) (Group III Mgt Superintendent)
Subject: RE: CLEO Preliminary TAB Report Discrepancies
Date: Tuesday, June 07, 2016 13:23:48

Oh ok - thanks - I'm behind trying to catch up.

(b)(6) PE
Supervisory Construction Manager
ROICC, Camp Lejeune, NC
(b)(6)

-----Original Message-----

From: (b)(6) [mailto:(b)(6)]
Sent: Tuesday, June 07, 2016 11:55 AM
To: (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune; (b)(6)
Cc: (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune; Erik Barrow (PM, Group III Management); (b)(6) (Group III Mgt Superintendent)
Subject: [Non-DoD Source] RE: CLEO Preliminary TAB Report Discrepancies

Good morning (b)(6). Thanks for the letter. We reversed the pumps already, adjusted all dampers, and re-performed TAB with . We hope to submit the final TAB results tomorrow. Thanks. R/ (b)(6)

(b)(6) | Deputy Project Manager & Small Business Liaison | |
311 Parachute Tower Road | Camp Lejeune, NC 28542 |
Phone: w (b)(6) Dragados USA, Inc. is An
Equal Opportunity Employer

-----Original Message-----

From: (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune [mailto:(b)(6)]
Sent: Tuesday, June 07, 2016 7:21 AM
To: (b)(6); (b)(6)
Cc: (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune
Subject: CLEO Preliminary TAB Report Discrepancies

(b)(6)

See attached letter.

(b)(6) PE
Supervisory Construction Manager
ROICC, Camp Lejeune, NC
(b)(6)

From: (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune
To: (b)(6); (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune; (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune; (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune
Cc: (b)(6); (b)(6) (PM, Group III Management)
Subject: RE: TRANSMITTAL 1262, SPEC 27 10 00, TELECOMMUNICATIONS CABLING SYSTEM, SD-03, OUTDOOR RATED CAT-6 CABLE
Date: Tuesday, June 07, 2016 6:29:18

(b)(6)

Why are these being submitted to us? All technical submittals should be going to the DOR.

(b)(6), PE
Supervisory Construction Manager
ROICC, Camp Lejeune, NC
(b)(6)

-----Original Message-----

From: (b)(6) [mailto:(b)(6)]
Sent: Thursday, June 02, 2016 12:36 PM
To: (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune; (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune; (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune; (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune
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(b)(6) | Deputy Project Manager & Small Business Liaison | cid:image001.png@01CCA871.8C8E7960 |

From: (b)(6)
Sent: Thursday, June 02, 2016 10:25 AM
To: (b)(6) (NAVFAC Contract Spec); (b)(6) (b)(6); (b)(6)
(b)(6)
Cc: (b)(6) (Dragados Senior Vice President); (b)(6) (Dragados QC Specialist); (b)(6) (PM, Group III Management)
Subject: FW: INDOOR/OUTDOOR CAT-6 CABLE

Good morning. Below is Base Telephone's approval of an outdoor-rated CAT-6 cable we intend on using at the CLEO building. My QC Manager will submit this product data sheet today but with Steve's prior approval of the material I am authorizing my sub to install it tomorrow (3Jun). Thanks. R/ (b)(6)

(b)(6) | Deputy Project Manager & Small Business Liaison | |

-----Original Message-----

From: (b)(6) [mailto:(b)(6)]

Sent: Thursday, June 02, 2016 10:02 AM

To: (b)(6)

Cc: (b)(6)

(b)(6)

Subject: RE: INDOOR/OUTDOOR CAT-6 CABLE

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(b)(6)

Lead Investigator / Inspector / IT Project Manager

Base Telephone Building 25

(b)(6)

-----Original Message-----

From: (b)(6) [mailto:(b)(6)] <mailto:(b)(6)>]

Sent: Thursday, June 02, 2016 9:47 AM

To: (b)(6)

Cc: (b)(6) [mailto:(b)(6)] > ; (b)(6) PM, Group III Management)

Subject: [Non-DoD Source] INDOOR/OUTDOOR CAT-6 CABLE

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(b)(6) | Deputy Project Manager & Small Business Liaison | |

311 Parachute Tower Road | Camp Lejeune, NC 28542 |

Phone: w (b)(6) | Email: (b)(6)
<[\(b\)\(6\)](mailto:(b)(6))>

Dragados USA, Inc. is An Equal Opportunity Employer

From: (b)(6) [NAVFAC MIDLANT, ROICC Camp Lejeune](#)
To: (b)(6); (b)(6) [NAVFAC MIDLANT, ROICC Camp Lejeune](#); (b)(6) [NAVFAC MIDLANT, ROICC Camp Lejeune](#); (b)(6) [NAVFAC MIDLANT, ROICC Camp Lejeune](#)
Cc: (b)(6) [\(PM, Group III Management\)](#)
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(b)(6)

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Supervisory Construction Manager
ROICC, Camp Lejeune, NC
(b)(6)

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(b)(6) | Deputy Project Manager & Small Business Liaison | cid:image001.png@01CCA871.8C8E7960 |

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Sent: Thursday, June 02, 2016 10:25 AM
To: (b)(6) (NAVFAC Contract Spec); (b)(6) (b)(6); (b)(6) (b)(6)
Cc: (b)(6) (Dragados Senior Vice President); (b)(6) (Dragados QC Specialist); (b)(6) (PM, Group III Management)
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(b)(6) | Deputy Project Manager & Small Business Liaison | |

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From: (b)(6) [mailto:(b)(6)]

Sent: Thursday, June 02, 2016 10:02 AM

To: (b)(6)

Cc: (b)(6)

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Subject: RE: INDOOR/OUTDOOR CAT-6 CABLE

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(b)(6)

Lead Investigator / Inspector / IT Project Manager

Base Telephone Building 25

(b)(6)

-----Original Message-----

From: (b)(6) [mailto:(b)(6)] <mailto:(b)(6)>]

Sent: Thursday, June 02, 2016 9:47 AM

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(b)(6) | Deputy Project Manager & Small Business Liaison | |

311 Parachute Tower Road | Camp Lejeune, NC 28542 |

Phone: w (b)(6) | Email: (b)(6)
<[\(b\)\(6\)](mailto:(b)(6))>

Dragados USA, Inc. is An Equal Opportunity Employer

From: (b)(6) .NAVFAC MIDLANT, CI
To: (b)(6) .NAVFAC MIDLANT, ROICC Camp Lejeune; (b)(6) .NAVFAC MIDLANT, ROICC Camp Lejeune
Cc: (b)(6) .(PM, Group III Management); (b)(6) .(Group III Mgt Superintendent); (b)(6)
Subject: RE: Wilson Gate Tile
Date: Friday, June 10, 2016 8:23:42

(b)(6)

Can you remind me what the size of the floor tile in that space will be?

(b)(6)

-----Original Message-----

From: (b)(6) [mailto:(b)(6)]
Sent: Thursday, June 09, 2016 5:26 PM
To: (b)(6) NAVFAC MIDLANT, CI; (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune; (b)(6) NAVFAC MIDLANT, ROICC Camp Lejeune
Cc: (b)(6) (PM, Group III Management); (b)(6) (Group III Mgt Superintendent); (b)(6)
Subject: [Non-DoD Source] FW: Wilson Gate Tile
Importance: High

Good afternoon (b)(6) The finish schedule on sheet A-602 states that the bathroom wall tile will be Daltile, 8"x8" 0135 – ALMOND & Daltile 8"x8" DM14 – COBALT. It only comes in 6"x6". Is a 6"x6" is acceptable? There is no additional charge for the change.

Below is a link to the product colors.

<http://products.daltile.com/series.cfm?seriesName=semigloss> <<http://products.daltile.com/series.cfm?seriesName=semigloss>>

The almond tile color is on back order until mid-July. Please see if the American Olean Biscuit is a suitable color alternative.

Thanks. R. (b)(6)

(b)(6) | Deputy Project Manager & Small Business Liaison | cid:image001.png@01CCA871.8C8E7960 |

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Phone: w (b)(6) | Email: (b)(6)
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From: (b)(6) [mailto:(b)(6)]
Sent: Wednesday, June 08, 2016 3:27 PM
To: (b)(6)
Cc: (b)(6)
Subject: Wilson Gate Tile

(b)(6) -

The finish schedule on sheet A-602 states that the bathroom wall tile will be Daltile, 8"x8" 0135 – ALMOND & Daltile 8"x8" DM14 – COBALT. Below is a link to the product colors.

<http://products.daltile.com/series.cfm?seriesName=semigloss>

The only issue is that they do not make this tile in a 8" x 8". It comes in a 6x6. I've talked to the Tile sub. There is no additional charge for the change. Can you please find out if a 6x6 is acceptable? We may be able to start as early as next week if can get approval on this. Depends on the Cobalt color availability. There is a chance we might have to submit an alternate. I will keep you posted. In the mean time, please find out about the 6x6.

Thank you -

(b)(6) - Vice President
Group III Mgt., Inc.
(b)(6)